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THE
CALCUTTA JOURNAL
OF
MEDICINE

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THE MATERIA MEDICA.

17.—BELLADONNA.

Nat. C. rhus. sep. STRAM. sulph.

Seat of the diseases.—Acon. anybody places and hilly regions in
canth. caps. carb-veg. caust. cham. chin. England, about old castles
euphr. graph. hep. HYOSC. ignat. ipec. kali. LYC.
N-VOM. oleand. op. petr. PHOSPH. ph-ac. plat. pi.
bad. sec-corn. SEP. SIL. spig. stann. staph. stram. When beginning to

Morbid states and sensations.—Acon. ang. arn. ars. asaf.
canth. caust. cham. chin. cic. cocc. con. cupr. dulc. ferr. HYOSC. ignat.
LYC. MERC. natr. natr-mur. nitr-ac. N-VOM. op. phosph. plat.
PULS. RHUS. sabin. sec-corn. SEP. sil. spig. stann. staph. stram.
SULPH. thuja. veratr.

Glands.—Acon. ARN. BRY. calc. carb-an. chin. clem. con. hyosc. jod. LYC.
MERC. PHOSPH. PULS. rhus. sep. sil. spong. SULPH.

Bones.—Arg. asaf. CALC. caust. chin. con. cupr. cycl. dros. hell. hep. kali.
lyc. MERC. nitr-ac. phosph. PULS. ruta. sabin. sassap. sep. sil. spig. staph.
sulph.

Skin.—Acon. amm. ARS. asaf. bry. calc. caust. chin. con. dulc. ferr.
graph. hep. hyosc. kali. lach. LYC. MERC. mezer. nitr-ac. oleand. phosph.
PULS. RHUS. sec-corn. SEP. sil. staph. SULPH. veratr.

Sleep and dreams.—Ars. bry. calc. cham. chin. graph. hep. hyosc. ignat.

in other words, to the heart and blood-vessels; *secondly*, it is a potent diuretic; *thirdly* by virtue of a direct action on the nerve-centres, and of its stimulant effect on the circulation, it is an oxydizing agent; *fourthly*, it possesses powerful anodyne and hypnotic properties; and *fifthly*, as a result of its action on the sympathetic and sensory centres, it is a most valuable antispasmodic."—*Harley*.

COMPOSITION.—The *leaves* of belladonna were analysed, in 1808, by Melandri; the *expressed juice*, in 1809, by Vauquelin; and the *dried herb*, in 1819, by Brandes. Besides these, there have been several less complete examinations of this plant by other chemists, which have yielded more or less interesting results.

in absolute alcohol and ether, is coloured green by the salts of iron, and is totally precipitated from its watery solution by the salts of lead and by tincture of galls.

3. BELLADONNIN.—Under this name, Lubekind has described a volatile vegetable alkali, which, he says, is distinct from atropia. It is crystallisable, and has an ammoniacal odour. It consists of carbon 28·5, hydrogen 22·4, nitrogen 32·1, oxygen 17·0. The crystals contain three equivalents of water. Two grains caused extreme heat in the throat, and constriction of the larynx.

4. ATROPIC ACID.—This name has been given by Richter to a volatile, crystallisable acid, distinguished from benzoic acid by its not precipitating the salts of iron.

Post Mortem Appearances.

"These, as in death from most of the vegetable poisons, are subject to considerable variation. The more constant appearances are a dilated state of the pupils, more or less redness of the mucous membrane of the stomach and small intestines, fullness of the cerebral vessels and congestion of the lungs. The blood is usually dark-colored and liquid (flowing profusely from the mouth, nose, and eyes). Instances are related, however, in which this poison produced death without leaving any notable morbid change in the body."—Wormley.

Concordances.

Moral and intellectual faculties.—Acon. anac. aur. bar. bry. cham. cic. coff. cupr. HYOSC. ignat. LYC. natr-mur. n-vom. op. phosph. ph-ac. plat. puls. rhus. sep. STRAM. sulph. VERATR.

Seat of the diseases.—Acon. ant-crud. arn. ars. aur. bar. BRY. CALC. canth. caps. carb-veg. caust. cham. chin. cic. cocc. con. creos. cupr. dros. euphr. graph. hep. HYOSC. ignat. ipec. kali. LYC. MERC. natr. natr-mur. nitr-ac. n-vom. oleand. op. petr. PHOSPH. ph-ac. plat. plumb. PULS. rhus. ruta. sabad. sec-corn. SEP. SIL. spig. stann. staph. stram. SULPH. veratr. zinc.

Morbid states and sensations.—Acon. ang. arn. ars. asaf. BRY. CALC. canth. caust. cham. chin. cic. cocc. con. cupr. dulc. ferr. HYOSC. ignat. kali. LYC. MERC. natr. natr-mur. nitr-ac. N-VOM. op. phosph. plat. plumb. PULS. RHUS. sabin. sec-corn. SEP. sil. spig. stann. staph. stram. stront. SULPH. thuj. veratr.

Glands.—Acon. ARN. BRY. calc. carb-an. chin. clem. con. hyosc. jod. LYC. MERC. PHOSPH. PULS. rhus. sep. sil. spong. SULPH.

Bones.—Arg. asaf. CALC. caust. chin. con. cupr. cycl. dros. hell. hep. kali. lyc. MERC. nitr-ac. phosph. PULS. ruta. sabin. sassap. sep. sil. spig. staph. sulph.

Skin.—Acon. amm. ARS. asaf. bry. calc. caust. chin. con. dulc. ferr. graph. hep. hyosc. kali. lach. LYC. MERC. mezer. nitr-ac. oleand. phosph. PULS. RHUS. sec-corn. SEP. sil. staph. SULPH. veratr.

Sleep and dreams.—Ars. bry. calc. cham. chin. graph. hep. hyosc. ignat.

kali. led. lyc. merc. n-vom. PHOSPH. ph-ac. PULS. rhus. SEP. sil. spig. stram. SULPH.

Pyrosis.—ACON. ARS. BRY. calc. cham. chin. cocc. ferr. graph. hep. HYOSC. ignat. jod. MERC. natr-mur. nitr-ac. N-VOM. ph-ac. PULS. RHUS. sabad. sep. sil. stram. SULPH. thuj. veratr.

Time.—Ant-tart. bry. caust. lach. lyc. mezer. nitr. phosh. puls. ran-scel. stront.

Exacerbations.—Acon. anti-crud. arn. ars. bar. BRY. CALC. canth. caps. carb-veg. caust. CHAM. chin. colch. con. croc. cupr. ferr. HEP. HYOSC. ignat. ipec. kali. lach. led. lyc. merc. natr-mur. n-mosch. N-VOM. op. phosph. ph-ac. PULS. RHUS. SEP. sil. spig. stram. stront. SULPH.

Concordances in general.—Acon. arn. ars. asaf. aur. bar. BRY. CALC. canth. caust. cham. chin. cic. cocc. con. cupr. ferr. graph. hep. HYOSC. ignat. kali. lach. led. LYC. MERC. natr-mur. nitr-ac. n-vom. op. PHOSPH. ph-ac. plat. PULS. RHUS. sec-corn. SEP. sil. spig. staph. stram. stront. SULPH. veratr.

Antidotes.—Coff. hep. hyosc. op. puls. vinum—(Noc. acetam. dulc.)

Hahnemann's Preface.

This plant may be grown in gardens, upon rather dry soil ; declivities should also be preferred. The medicinal virtues of Belladonna, thus obtained, are not inferior to those of the wild plant, although several physicians have, from mere conjecture, maintained the contrary.

The following very complete list of the symptoms of Belladonna, shows that it is typical of a number of frequently occurring affections, and that its curative powers are various and extensive, and require frequent application. It may therefore be considered a polychrest.*

There are practitioners who, from mere ignorance and pusillanimity, decry the great powers of Belladonna as poisonous, and advise that milder remedies should be substituted in its stead. They know not that no remedy can be used in the place of another, and their patients die victims to such folly.

How often do not the more acute cases of quinsy, especially when there is external swelling of the neck, become fatal in the hands of those practitioners, through repeated venesection, leeches, blisters, gargles, poultices, refrigerants, diaphoretics, purgatives, and various other modes of torturing the organism,

* NOTE OF THE TRANSLATOR (*Hempel*).—Hahnemann designates by the term "polychrests" those remedial agents that correspond to a great number of morbid symptoms, and will therefore prove curative in a vast number of cases.

whereas health might have been restored in a few hours by means of one single dose of Belladonna !

Every medicine, even the best, becomes dangerous, injurious, and even pernicious, in the hands of the ignorant and the quack. Every powerful remedy becomes a destructive agent when it is used in an improper manner, or exhibited in disproportionate doses. On the other hand, the most powerful and most energetic remedial agents become mild and eminently curative, even in highly susceptible systems, when they are exhibited in small doses, and in diseases to which those agents correspond in symptoms. Belladonna being a powerful agent, the greatest care should be taken to employ it with strict regard to its homœopathic character. The common *routinier*, whose sole art consists in applying to a given case of disease, one of those prescriptions which he had learned by rote, is, of course, unaware of the paramount importance of selecting every remedy, especially remedies of great power, with the most careful regard for their adaptation to disease.

The experience which I have had occasion to gather at the bedside of the patients for the last eight or ten years, has induced me to use the decillionth degree of potency for homœopathic treatment. The smallest portion of a drop* of that potency, is sufficient to exhibit that degree of curative action which the case requires.

To obtain the hundredth degree of potency, mix two drops of alcohol with equal parts of the plant—this method ought to be pursued with all other medicinal juices,—and then mix this with ninety-nine or one hundred drops of alcohol, by means of two strokes with the arm from above downwards ; by mixing, in the same way, one drop of this dilution with one hundred drops of alcohol, you obtain the ten thousandth degree of potency, and by mixing a drop of this last dilution with another one hundred drops of alcohol, you obtain the millionth degree. This process of spiritualization or dynamization, is continued through a series of thirty vials up to the thirtieth solution. This thirtieth degree should always be used for homœopathic purposes.

* NOTE: I exhibit one globule of the size of a grain of flax-seed three hundred of which weigh a grain. One drop being sufficient to moisten upwards of a thousand of such globules, one globule contains less than the one thousandth part of a drop of the decillionth solution.

If Belladonna be homœopathically indicated, one globule of the thirtieth dilution is sufficient to exhibit with great promptness the curative action of Belladonna, even in the most acute diseases. On the other hand, the action of one globule may, in chronic cases, continue for upwards of three weeks.*

Almost all authors have recommended vinegar as an antidote against Belladonna. This is a mere conjecture which one author has copied from the other. Abundant experience has taught me, on the contrary, that vinegar increases the pain produced by Belladonna.†

Fits of paralysis and colic, produced by Belladonna, may be assuaged by *Opium*, although it acts only as a palliative. A small dose of *Opium*, probably, also relieves the somnolence consequent upon the use of Belladonna.

Stupor, insanity, and frenzy, produced by Belladonna, are homœopathically relieved in the speediest and most certain manner by a few small doses of *Hyosciamus*. The intoxication of Belladonna is relieved by wine; myself, as well as Trajans and Moibanus, have witnessed this effect of wine.

A small dose of Belladonna having been administered non-homœopathically, and being succeeded by a weeping mood, attended with chills and headache, these effects may be stayed by a similarly small dose of *Pulsatilla*.

Adequate help is the most necessary, when a large quantity of the berries of Belladonna has been swallowed. In this case, relief may be obtained by large potions of strong coffee, which restores the irritability of the muscular fibre, puts a stop to the tetanic convulsions—although acting as a mere palliative—and secures the vomiting of the berries; this may, moreover, be facilitated by tickling the pharynx with a long feather.

The erysipelatous swellings of Belladonna are speedily removed by small doses of *Hepar sulphuris*. Camphor, too, is a good antidote against some of the symptoms of Belladonna.

Belladonna may be used as a prophylactic against the genuine, erysipelatous, smooth and glossy scarlet fever, as described by

* NOTE: One globule of Belladonna, first exhibited every three or four days, and afterwards at longer intervals, is the surest prophylactic against hydrophobia.

† NOTE: Staff has also observed that applications of vinegar to the forehead increase the headache caused by Belladonna, so as to make it insupportable; the applications had to be discontinued.

Sydenham, Plencitz, and others. To this effect the smallest dose of Belladonna ought to be given every six or seven days. This great discovery of mine has been scorned and sneered at by a number of physicians, for at least nineteen years. They were ignorant of the character of this disease which is proper to childhood, and they were indiscreet enough to mistake for scarlet fever the *purple-rash*, which had migrated into Germany from Belgium ever since the year 1801. They falsely applied to this purple-rash the term "scarlet fever," and failed, of course, in trying to cure it by means of the remedy which I had proposed.* I rejoice that, in subsequent years, other physicians should have again observed the genuine scarlet fever, that they should have confirmed the prophylactic virtues of Belladonna against this disease, and should have done me justice, after the unjust derision which I had so long suffered.

Purple-rash (*Roodvonk*) being a disease different from scarlet fever, it requires to be treated in a different way. In purple-rash Belladonna can do no good, and patients who are treated with Belladonna in this disease, will generally have to die; whereas all of them might have been saved by the alternate use of Aconite and the tincture of *Coffea cruda*, the former being given against the heat, the increasing uneasiness, and the agonizing anguish; the latter against the excessive pain and weeping mood. Aconite and *Coffea* should be alternately given every twelve, sixteen, or twenty-four hours, in proportion as one or the other medicine is indicated. Of the Aconite I give a small portion of a drop of the decillionth solution; of the *Coffea* I exhibit the millionth degree of potency in the same form and quantity. Recently, both diseases, which are so different from each other, the Sydenhamian scarlet fever, and the purple-rash, seem to have become complicated in some epidemic diseases, so that one patient derives more benefit from Aconite, another from Belladonna.

* NOTE: See *Thomassen & Thuessink, over de Roodvonk*, 1816, extracted from his *Geneeskundige Waarsmeringen*.

*Pathogenetic Symptoms.***Mind:—**

Great anxiousness by day ; she had no rest any where ; she felt as though she ought to escape.

Great anguish about the heart.

Anxious and fearful.

Anxiousness in the præcordial region.

Frequent moaning, especially early in the morning, without mentioning why, and from what pain.

Moaning at every expiration.

Moaning while asleep.

Moaning, alternating with jumping and dancing.

He suddenly screams, while his hands and feet tremble.

A good deal of anxiety, with sweat an hour afterwards.

Events which he had hitherto expected with a sort of pleasure, now give him a feeling of uneasiness ; he imagined something frightful and horrible would take place.

She complains about an intolerable anguish in the moments which are free from rage ; this makes her feel desirous of dying.

Anguish about the heart, headache, redness of the face and bitterness of the mouth towards noon and evening.

Anxiousness and uneasiness, when meeting people.

Great uneasiness ; she is unable to remain long at one place ; something drives her from place to place.

The body moves continually from side to side.

Unceasing movement of the body, especially the arms ; the pulse remaining unchanged.

Violent agitation in the bed.

The speech was more incoherent, in the evening.

Constant delirium.

The delirium subsides after a meal.

She prepares for her departure home.

He talks deliriously as in a dream, and cries that he had to go home because every thing was on fire.

Talks about wolves and bulls ; (war and soldiers).

Delirious prattle about dogs that swarm about him.

He is beside himself ; rages ; talks much about dogs ; and arm and face swell.

At night he utters absurd things ; by day he is in his senses.

Nightly delirium, which subsides during the day.

At times he talks deliriously, at times rationally, and complains about something.

Paroxysms of delirium.

Delirium, which is either continual or returns in paroxysms, first of a merry nature, and afterwards changing to rage.

Delirium, with wild manners.

He mutters as if asleep.

He says absurd things.

Senseless prattle in quick succession.

He talks like a maniac, with staring, protruded eyes.

Talkative, lascivious.

Dumbness succeeding the talkativeness.

Merry craziness.

Inactive, sitting behind the stove.

She tries to compose songs, and sings merry, but absurd and utterly senseless songs ; she also whistled occasionally , but would neither eat nor drink ; at the same time she heard nothing and saw nothing, with paleness of the countenance, and sweat upon the forehead.

He sings and warbles an air.

Extremely merry mood ; he is disposed to sing and to whistle (in the evening).

Involuntary, almost loud laughter, without being in a laughing mood.

He smiles a long while to himself.

Frequent laughter.

While laughing and singing, she constantly touches the things around her.

She breaks forth into a loud laughter, sings and feels the things which are near her.

Immoderately loud laughter.

Wild and wantonly merry, disposed to quarrel without any cause, and to offend ; full of ardor and laughter.

Extreme mirth after supper ; great exaltation of the vital powers for a quarter of an hour, followed by drowsiness.

Foolish manner : she feels those around her, at times she seats herself, at times she acts as if she were washing, or as if she counted money, or as if she were drinking.

At times he talks ridiculously like a crazy person, at times rationally.

He demeans himself like a fool and crazy person.

He imitates the gesticulations of a juggler.

Craziness; they undress themselves, run through the streets in their shirts, gesticulate in a strange manner, dance, laugh aloud, and utter and demand foolish things.

When walking, he raises his feet very high, as if he had to step over things lying in his way, like an intoxicated person.

Violent shaking of the head, foam at the mouth, and loss of consciousness.

She raises her hands above her head and claps with them, accompanied with a short, violent, suffocative cough, at night.

He claps with his hands, his head totters from side to side, and tenacious mucus is hanging down from the lips.

Horrible contortions of the muscles of the face, she puts out her tongue to its full length, smacks with her tongue, and is tormented by retching, in paroxysms.

At times he grasps hurriedly at those who are near him, at times he recedes from them shyly.

Irritated mood, she would like to weep at the slightest provocation.

When walking in the open air, she is attacked with anguish and a weeping mood; she is weary of life and inclines to drown herself.

Sad weeping, passing into an impatient and impetuous howling (with chilliness).

Violent weeping, moaning and howling without any cause, accompanied with fearfulness.

Weeping, and extreme ill humor when waking up from sleep.

Despondency, dejection of spirits.

He rises at night, and walks up and down in deep thought.

Want of disposition to attend to any thing whatever, indifference, deficient physical and mental activity.

Alternate weeping and ill humor for hours.

Extreme indifference for hours; one might attempt her life without moving her.

Apathy, nothing could make an impression upon her; in a few days she becomes very sensitive and out of humor; nothing gives her any pleasure.

Want of cheerfulness, out of humor, every thing is indifferent to her.

Headache, with pressure as from a stone, during which she moans and is put out of humor by trifles.

Not disposed to talk ; he answers with ill humor and screams.

He desires solitude and rest ; every noise and the visits of others are offensive to him.

Out of humor, internally the two succeeding days he is in his ordinary mood, but the next day his ill humor returns.

Extreme ill humor and seriousness.

Irritable mood, with great dryness in the mouth.

Great irritability and sensibility of the senses ; taste, smell, tact, sight and hearing are more refined and keener than usual ; his feelings are more easily stirred up, and his thoughts fluent.

Out of humor, he was displeased with every thing, and was even dissatisfied with himself.

She is very much irritated ; she gets easily vexed and then weeps.

He becomes angry easily, even at trifles.

Horrible words and curses, in detached syllables.

Howling and screaming on account of trifles ; this is made worse by talking to him kindly, the pupils being easily dilated and contracted.

Violent quarrelsomeness, which cannot be appeased.

Rage ; the boy did not know his parents (from one single berry).

He tosses about in his bed in a perfect rage.

He tears his shirts and clothes.

He strikes his face with his fists.

Frenzy, with attempts at violence.

Rage, with gnashing of teeth and convulsions.

Instead of eating that which he had called for, he bit the wooden spoon in two, gnawed at the dish, and grumbled, and barked like a dog.

Rage, the patient being sometimes very enmning, and alternately singing and screaming, or spitting and biting.

He acts foolishly, tears his clothes, pulls stones out of the ground and throws them at those who are around him.

Rage ; he injures himself and others, and strikes around himself.

He wants to bite those around him, at night.

Rage ; she pulls those around her by the hair.

Burning heat of the body, open, staring, immovable eyes, with rage so that she has to be held constantly, lest one should be attacked by her ; when thus held and prevented from using her limbs, she constantly spit at those around her.

Extreme ill humor after sleep ; he bites those around him.

He bites every thing in his way.

Inclination to bite those around him.

Inclination to tear every thing around him.

He tears every thing around him, bites and spits.

In his rage he throws off the bed-cover.

He attempts to jump out of bed.

Anxious and confused ; she apprehends death.

Shy diffidence.

Shy craziness ; he is afraid of an imaginary black dog, of the gallows, etc., (more frequently in the first 12 hours than afterwards).

Craziness ; he is fearful-lest his living body should decay.

He tries to escape.

He escapes into the open field under some pretence or other.

She tries to throttle herself, and begs those around her to kill her ; she says the time had now come when she had to die.

He throws himself from a height.

Jumps into the water.

(Derangement of the Will-faculty—after suppression of erysipelas, meningitis, typhoid fevers, apoplexy).

(Also in drunkards ; in pregnant and lying-in females ; after frights, chagrin, mortification, grief ; after a cold).

(Melancholy, amorous, with sexual excitement).

(Home sickness).

OURSELVES.

WE have to express our gratitude to our subscribers for the forbearance and even indulgence with which we have been treated, and without which we would have been obliged to put a stop to our undertaking long before. Annoyed ourselves at the state of arrears into which we have fallen, our readers would seem to have only regretted it as an inevitable accident of an undertaking conducted almost single-handed, which could only be effectually done by the co-operation of many. We began to be out of date very soon after the starting of the Journal. And in the No. for May 1868, we endeavoured to pacify our readers by an "apology," at the same time that we appealed to our professional brethren by a "call" for help in a task, which though self-imposed, could not but be acknowledged to be one calculated to benefit the profession and thereby the public at large. A medical Journal "conducted on strictly catholic principles," and in which though the *similia similibus* law and the infinitesimal posology are recognized as the most advanced points yet reached in the domain of therapeutics, full and fair play is allowed to all the systems of medicine in vogue in the world,—such a Journal, if we are not mistaken, is yet unique in the field of medicine. When we commenced our labors we believed in our simplicity that our professional brethren would favor us with their co-operation in carrying out a project which had for its aim the grand object of reducing the chaos of systems into a harmonic whole, of converting an uncertain into a positive science. We now find, however, to our deepest sorrow that we were mistaken in assuming the existence of so much liberality, of so much of the true spirit of science in our profession, which, be it said, is never tired of boasting of its scientific pretensions.

The fact is the mind of the profession is still too engrossed in selfishness to be able to understand its own interests, too inflated with conceit to be in a mood to give way to wisdom, especially when that wisdom comes from those whom it has once in its ignorance branded as fools. But though the new system has not been able to achieve an open conversion, he, who has eyes to see, will not fail to observe the secret and unacknowledged influence it has exerted upon even the most obstinate and inveterate conserva-

tives of orthodoxy. Notwithstanding that it is loud in the brag of its "rationality," orthodoxy can no longer conceal from the outside world that that rationality consists in a regular warfare of doctrines and opinions, and in a perpetual cycle of the same. Such is this warfare of systems that even within the walls of the same institution, the most contradictory views on the same subject are advanced and taught, so that students are quite puzzled and confounded when they pass from one chair to another.

In such a state of things it cannot be expected that reforms can be effected quietly and smoothly. Medicine is yet no better than politics, and reformation for sometime yet must be synonymous with revolution. The evil most to be deplored, that results from such a state of things, is the widening of the breach between the orthodox and the reform parties, a breach which tends to perpetuate the prejudices of both, and thus retards the progress of science. In the end, when the knowledge of either enlarges, the parties will no doubt meet and amalgamate. But towards hastening that end, it behoves the men of reform to be tolerant and indulgent to the prejudices of orthodoxy. They should never forget that they themselves had the same prejudices, from which they have emerged only with an effort. The possession of superior knowledge is, indeed, a privilege, but like every privilege it imposes duties and responsibilities commensurate with its magnitude. To whom much has been given, of him much shall be required.

In this matter of medical reform, the lay public has certain duties to perform. They are of course not expected to judge of the scientific merits of the contending systems, but they can certainly measure the amount of scientific spirit that animates the contending parties. They can raise their voice against the intolerance and the fanaticism which disgrace the ranks of orthodoxy. The blind rage which orthodox professional men display in proportion to their impotency against disease and to the reported success of men whom they revile as quacks and charlatans, and therefore deem unworthy not only of professional consultation but of being even in the house of the same patient, while they are there, can certainly be brought before the bar of public opinion, and so condemned as to be rendered impossible of repeti-

tion. Would it be believed that men, who pass for respectable men, have sometimes gone the length of exacting as a condition of according their services that a certain professional man should not be allowed to pay his visits even as a friend? Why dread the presence of that individual? or why take advantage of people's moments of disaster and misfortune? Here the lay public can obviously step forward, and with the weight of its opinion crush the spirit of trades-unionism, and thus save the cause of medical toleration.

As for ourselves, we can assure our readers that so long as we continue to be favored by their indulgence, we shall continue to labor, and labor as before and ever in the cause of medical reform, in spite of discouragement from the profession. Our expenses are not even half covered by the patronage we receive. Month after month we have to make sacrifices from our pocket, which form not an inconsiderable sum, considering our limited income; but we are buoyed up by the consolation that instead of spending in pleasures which bring in their train miseries in the shape of loss of health and premature death, as is but too often done by our native brethren of the profession, we are spending in a noble and worthy cause. And the very fact of want of support has stimulated us the more to persevere. For if there had been adequate support, other and abler hands might have taken up the work.

In palliation of the state of arrears into which we have fallen, nay, in justice to ourselves, it is necessary to mention that while we had promised in our prospectus to give *four* sheets, we have been from the beginning giving *five* sheets, to each number. This makes up thirty-six sheets in three years, equivalent to seven numbers at the rate of five sheets a number. So that if we had adhered to our promise, we should not have fallen into arrears at all. We do not however claim any indulgence for the additional sheets we have already furnished. We are quite willing to increase the bulk of the *Journal* still more, provided our subscription list would enable us to do so. And here we would draw attention to our *Materia Medica* portion, which is a novel feature in the *Journal*, and which we believe, is very useful, especially to Indian readers. It is necessary that the compilation should be expedited as much as possible. And for this purpose we shall

be very glad to give a sheet (8 pages) of additional matter for every addition of twenty names to our subscription list. Considering the importance of having a complete *Materia Medica*, such as we are now presenting, we trust we have not made an exorbitant demand.

SOME IMPORTANT REVELATIONS FROM CHARAKA SAṆHITA'.

WE would draw the attention of our native (Hindu) readers to *Slokas* 23, 29, and 30 of the 2nd chapter of *Sutrasthanam* of *Charaka Saṁhitā*, published in the present Number. Prejudice regarding diet, especially in disease, though it has considerably declined and may be said to be rapidly declining, before advanced education and enlightenment, is yet so strong and deep-rooted that many a time the physician is in great difficulties when, for the benefit of his patients, he has to prescribe a diet proscribed by custom and religion. And many a time this prejudice has so stood in his way that he had to regret the loss of his patient's life, when a change of diet, according to his convictions, might have averted the catastrophe. Under such circumstances, it is a relief to be able to point out from our *Sāstras*, our own *āyurveda*, that the articles now looked upon with so much useless horror by our community, used to be prescribed in disease by our ancient physicians, and therefore there does not appear to be any good reason why physicians of the present day, when they find the precepts of modern science accord so singularly with those of our own medical writings, should not, in case of necessity, the necessity of disease, do the same.

When we discovered these texts in *Charaka Saṁhitā* and ascertained that there were similar ones in *Suśruta*, we naturally sought the opinion of our Pandits and Kavirajs about them. It is only the very enlightened and unprejudiced among them that admitted the force of the said texts and the reasonableness of their application to modern times. But generally the texts were explained away, on the ground that they do not apply to Hindus

but to Mlechchas (barbarians). It is hardly necessary to remark that such an interpretation cannot stand, inasmuch as there is no such specification in either of the works mentioned above. One very intelligent objection has been urged, and apparently it has some force, viz., that the prescription of beef and fowl and pork in diseased conditions was good in times when those were articles of ordinary diet, but it cannot be so regarded when the said articles have ceased to be the food of the people. In answer to this we would only remark that in disease we have to prescribe many things which have been never used by the patients as food. And the verdict of our undoubted and abundant experience on the subject ought to be conclusive.

It is true that the human organism, when in health, when the assimilative power is in full vigor, can derive nourishment from other than animal food, almost as well as from animal food. But it is no less true that in certain diseased conditions, when the assimilative power is at the lowest, its component parts require to be fed by pabulum as much similar to themselves as possible, that is by food derived from the animal kingdom. Of this we have had abundant proof in the course of a pretty long experience. We can cite instances in which all medicine having failed to be of the slightest avail, the use of animal food alone kept the patients alive and ultimately saved them from death.

But the prejudice that exists in the mind of our orthodox community respecting certain articles of diet is altogether groundless, and has not, strictly speaking, the sanction of religion. Our highest authority on these matters, Manu, has said :—

प्रोक्षितं भक्षयेन् नाशं ब्राह्मणानाञ्च काव्यया ।

यथाविधि निशुक्लस्तु प्राणानामेव चाख्ये ॥

Flesh-meat can be taken if it has been sacrificed, if desired by a Brahman, if duly invited, and if in danger of losing life without it.

This is undoubtedly plain. Flesh-meat can be taken, without any violence to religion, when there is danger of losing life without it. But as if to prevent all possibility of misconception of the subject, and misinterpretation of the text, Manu further adds :—

प्राणस्यान्नमिदं सर्वं प्रजापतिरकल्पयत् ।

स्यावरज्जम्भवे सर्वं प्राणस्य भोजनम् ॥

All things have been designed by Prajāpati (the Creator) to be food for living beings. Both unmoving (inanimate) and moving (animate) things form food for living beings.

This is a very general proposition, and in this matter of diet, embodies the highest philosophy, inasmuch as it is evidently deduced from a comprehensive survey and a correct reading of Nature and her doings. Manu puts the final emphasis upon his teaching by the following details :—

चराणामन्नमचरादंष्ट्रिणामन्नमदंष्ट्रिणः ।

अहस्ताश्च सहस्तानां गूराणाञ्चैव भीरवः ॥

The creatures that move live upon things that do not move ; animals with teeth upon animals without teeth ; animals with hands upon those without hands, and the bold upon the timid.

We could cite other instances from other authorities to show that “it is not that which goeth into the mouth, but that which cometh out of it, that defileth the man.” Our conviction has all along been, and the more we have studied the more we have been confirmed in that conviction, that the teaching of our ancient scriptures is not altogether so unphilosophical and absurd as it is generally supposed. There are better and nobler things in them than the ignorance and the vain conceit of the present day are disposed to give them credit for.

CLINICAL RECORD.

*A case of Gangrene from the bristles of the SHOA POKÁ' or
the hairy Caterpillar.*

UNDER CARE OF DR. M. L. SIRCAR.

ON the 1st of October 1870, the middle toe of the left foot of Dakshina Prasád Mukerjea, aged 28, native of Bankra near Sibpore, got pricked by the bristles of the Shoah Poká. This gave rise to inflammation which culminated in gangrene of the toe with suppuration of the foot close by. When we saw him first on the 19th Oct. we found the toe blackened and the foot swollen. We gave *Sil.* 30. But on the following day finding that an abscess was forming, we gave him *Hep. s.* 30. This was continued till the 29th when, finding the abscess brought to a head, we opened it. From the following day till his final recovery by the middle of December, he had *Sil.* 12, which had the effect of diminishing the discharge, reducing the swelling, and healing up the sinuses. The first phalanx, which had mortified, dropped off of itself in the course of the treatment. Externally, we had used the calendula lotion (ten drops of the mother tincture to an ounce of water) so long as the sloughs were not all separated, and the discharge continued fetid. We have invariably found the calendula to be an excellent cleanser of such sores.

Remarks.

We publish this case not only to illustrate the effect of *Silicea* in open suppurations, but also to point out the danger which attends the penetration into the skin or other living tissues of the bristles of the insect known as shoah poká, the hairy or the spinose caterpillar, the pest of the rainy season in Bengal. These bristles are very poisonous and we have known panophthalmitis with sloughing of the cornea and even destruction of the eyeball to result from the irritation caused by their contact with the conjunctiva. The best antidote we know of this insect, and the best remedy of the recent inflammation caused by it, is the juice of the leaves of the plant, called dholá or káuchirá (*Commelyna Bengulensis*). We have taken out the bristles from the living shoah poká and, mixing them with this juice, we have rubbed them between our fingers, and we have found them literally to melt away. Would not a saturated tincture of the fresh leaves be equally useful? This is at least worth a trial in recent inflammations resulting from this cause. And why may it not be useful, even when the inflammation assumes a destructive character, as it did in our patient?

Glennings from Contemporary Literature.

THE CONTROVERSY ON SPONTANEOUS GENERATION :

WITH RECENT EXPERIMENTS.

By JAMES SAMUELSON.

THERE is perhaps no biological question, excepting the origin of species, which has been so warmly debated in England and abroad, as the mode in which the lowest known types of animal and plant life come into existence, and probably one reason why these impurities have been productive of so much excitement, their indirect theological bearing.

The developmental theory recently elucidated by the researches and arguments of Darwin gave a fatal blow to the ancient beliefs concerning the first appearance and presence of the animal and plant races on the earth's surface, and rendered unnecessary the special intervention of the Creator to account for the production of new species ; whilst the hypothesis of spontaneous generation, or the creation *de novo*, in organic infusions of the lowest known types of plants and animals in our time, seems, to impetuous and superficial thinkers, to put the divine influence altogether out of sight, and almost to degrade what have hitherto been regarded as living beings and vital forces to a level with the unconscious physical forces and inert forms of matter.

With these considerations, however, scientific men have no concern, and whether or not the creation of a living thing from organic or inorganic materials, by what may be termed artificial means, be regarded as a sacrilege, the investigation must be undertaken without apprehension or prejudice, and the verdict given, not by theology or theologians, but on the evidence of strict experimental research, and from unprejudiced inductive reasoning.

Scientific men being, as a rule, regarded as ruthless iconoclasts, anxious only to lacerate the feelings and undermine the most sacred aspirations of true believers, it may be supposed that these remarks are prefatory to an argument intended to overturn all our preconceived views as to the higher nature of life, and to hand over the task of creating living beings to the chapter of accidents and to the blind physical forces of nature. My task is, however, not of such a painful character. In the first place, it must be remembered that if it should turn out that living beings are capable of springing into existence through the direct transformation of decaying organic matter, those beings are, so to speak, merely the instruments upon which the higher psychical faculties play ; from dust they come and to dust they return. And again, every advanced thinker is prepared to admit that even the higher races which animate, beautify, or transform the earth's surface, are fed, grow, and decay through the direct operation of the physical forces, and that they are exquisitely constructed machines,

liable to injury, accident, and destruction, and need fuel and reparation just as any humanly-constructed mechanism. What difference, then, can it make to any but the most timid or bigoted thinkers whether the first appearance of the lowest types of animal and plant life is due to the direct action of the physical forces upon matter which has once been organized and is undergoing decomposition, or to the same forces or some unknown modification of them acting in the first instance in or upon almost inconceivably minute pre-existing germs?

I can, however, offer to such timid philosophers the crumb of comfort, that it is not unlikely the ultimate result of the discussion which now agitates the scientific world will be to show that the lowest known living types are *not* now created *de novo*, but that their germs are almost omnipresent and ineradicable; and this conclusion has been arrived at by me, not from the experiments with varying and contradictory results which have been tried by different investigators, but from a calm consideration of the whole question, renewed at intervals, over a space of nearly fifteen years.

And this reflection causes me to draw attention to a peculiar circumstance connected with the controversy on spontaneous generation; namely, that we hardly ever hear of the work of any observer extending over a lengthened period. In most cases we have a set of experiments tried by an investigator of greater or less eminence, now a zoologist, then a chemist, which are published along with his views, usually of a very decided and dogmatic character, and then he rushes out of the arena, and we hear, nothing more of him on that subject. Of course he has settled the question to his own satisfaction and to the satisfaction of those who agree with him, and there is no need of further investigation until some new circumstance or some fresh set of experiments invalidates all previous evidence and raises up a new host of combatants and disciples on either side.

We are at present in the very thick of such an intellectual contest, and no doubt there are many true believers in heterogenesis who regard as conclusive the recently-published experiments and observations of Dr. Bastian which have startled the boldest thinkers and some of the most profound biologists; but after bestowing upon them the careful consideration which they well deserve, and trying such experiments as seemed to me to throw light upon some of the mysterious appearances described by him, I have come to the conclusion that, so far as he is concerned, the argument stands just where it was, and that the question is likely to remain an open one for a long time to come.

Many will, no doubt, remember that some years since Professor Huxley influenced by the astounding revelations of organic chemistry, and by the facility with which one form of organic matter after another was being synthetically produced by chemists in their laboratories, ventured on the bold speculation that *possibly* experimentalists might one day be able "to take inorganic matters such as carbonic acid, ammonia, water, salines in

any sort of inorganic combination, and be able to build them up into protein matter, and then that protein matter ought to begin to live in an organic form ;”* but Dr. Bastian believes that he has accomplished even more than this, that he has taken solutions of saline substances in proportions which he details most circumstantially, has exterminated in them all the germs which they might possibly be said to contain, and by excluding the atmosphere has prevented the entrance of new ones which might be said to be floating in that medium ; and that, yet, after intervals varying from nine or ten to forty days there have been spontaneously produced in and from those substances, not particles of protoplasm as it was hinted possible by Professor Huxley, but truly organized plants and small ciliated infusoria.

But in the first place, his own account of these experiments is often very vague. For example, he tells us† that he prepared a solution of crystallized white sugar, tartrate of ammonia, phosphate of ammonia, and phosphate of soda, which was boiled for twenty minutes and kept *in vacuo* nine days ; and, to use his own words, “ when examined microscopically a few monads and bacteria were found in the first drops of the liquid which had been poured out before the whole was shaken.”

So far, after nine days’ exposure he found only what has been seen by a score of observers over and over again, and cautious investigators, such as Dr. Child, Dr. Beale, and others (as I ventured years since to predict), have refused to admit many of these minute moving specks to be living organisms at all. But he goes on to say, “ The remainder was then poured into a conical glass, and after having been allowed to stand for a time, the supernatant fluid was removed and the last few drops containing the sediment were examined.” It is to be regretted that we are not informed how long the fluid was allowed to stand exposed to the air, for although in the case under consideration the only result of the exposure was the appearance of many “ bacteroid particles” (whatever that may mean—for a bacterium itself is the minutest speck perceptible to the eye with high microscopic powers), “ and monads of different sizes exhibiting the most active movements,” yet I will show presently, that when certain fresh infusions are exposed under favorable circumstances only for a few hours, they become filled with perfectly-organized plant forms in different stages of growth. In addition to those “ bacteroid” particles and monads, Dr. Bastian also found “ irregular-shaped particles” which were active, and the conclusion at which I am constrained to arrive, is that his enthusiasm in the cause of heterogenesis has led him, there at least, to confound the atomic motion of organic and inorganic particles with the movements of similar objects, of which it is always necessary to trace the growth and development before they can be safely pronounced to be the germs of infusoria or of lowly plants.

* ‘ On our Knowledge of the causes of the phenomena of Organic Nature ;’ being Six Lectures to Working Men. By Professor Huxley, F.R.S.

† ‘ Nature,’ July 7, pp. 105—6.

Let me, in passing, recommend those investigators who are reviving the experiments of Pouchet, Pasteur, Schulze, Joly, Musset, Wyman, and others, all of whom have failed to convince the scientific world, that they should not only examine their infusions, as heretofore, some *days* after they have been sealed up, but some hours afterwards, and I have reason to believe that the comparison will change their views as to the result of closing and preserving those infusions.

Again, some of Dr. Bastian's experiments are strikingly adverse to the hypothesis that the types observed and described were created *de novo*. In experiment No. 13, a solution of tartrate of ammonia and phosphate of soda, which had been kept twenty days *in vacuo*, was found to contain a fungus, &c., whilst another solution, which had been prepared in the same manner and at the same time, was opened on the thirty-fifth day, and "yielded no organisms of any kind;" but mark! when a third solution of the identical substances was so treated as to give free access to the air, and was examined on the thirty-eighth day, there was found what the observer calls "a spirally-twisted organism." It seems to me that it would hardly be possible to adduce more convincing evidence against heterogenesis and in favour of the atmospheric germ theory than is afforded by these results, and a very striking confirmation of this view is to be found in a circumstance which has recently been discovered in another quarter, affording evidence, all the more valuable, because it was not intended to influence this controversy. Mr. Wood, of Middlesborough, in his efforts to preserve tartaric acid solutions in a state fit for chemical experiments, has found that whilst such a solution will, under ordinary circumstances, become mouldy, it will not undergo that change if previously boiled and filtered—but it must in fairness be added that he says, even if exposed to the air. Whether he means constantly exposed to the air, or only occasionally, I am unable to say. How such substances become mouldy will be seen presently, and it will be found to have a direct bearing on the argument.

Before proceeding to describe my own recent investigations, however, I desire to make one more reference to the published opinions of Dr. Bastian, to show how necessary it is to be cautious before we construe the microscopical appearances connected with this inquiry.

In speaking of the pellicle which appears on the surface of infusions, Dr. Bastian says,* "What Burdach named the proligerous pellicle of organic solutions, is made up of an aggregation of monads and bacteria in a transparent jelly-like stratum on the surface of the fluid. It constitutes at first a thin scum-like layer, and although the monads and bacteria entering into its composition are motionless, M. Pouchet and others were not warranted in assuming from this fact alone that they were dead. There is indeed good reason for believing to the contrary, since, as pointed out by Cohn, any of these particles are set free from the broken edge of a pellicle, they always resume their movements. Motion, therefore, may simply be prevent-

* 'Nature,' June 30, p. 172.

ed by the presence of the transparent jelly-like material in which they are imbedded, although the particles may be undoubtedly living."

Under what circumstances the observers examined this so-called "proligerous pellicle," I am unable to say, and Dr. Bastian himself says, that owing to his observations being carried on in winter, he was not able to witness those changes observed by Pouchet: but he describes certain other changes in this pellicle on infusions which, according to his account, resulted in the development of unicellular organisms.

Now, with all deference to the eminent observers quoted by Dr. Bastian, I venture to say that the appearances referred to have no bearing whatever upon the controversy, inasmuch as they are by no means confined to infusions.

Long before I had heard the expression "proligerous pellicle," or was aware that this phenomenon was supposed by the advocates of heterogenesis to precede the creation, *de novo*, of living forms, I had myself observed a precisely similar appearance in pure distilled water exposed to the atmosphere. This was recorded at the time, as follows, in a paper read before Section D of the British Association in 1863:—

"Let me, however, briefly refer to the results of the exposure of distilled water only, in July, for that experiment has not been repeated with such satisfactory results. The glasses containing the water were so placed in a box divided by three partitions and covered with lids of blue, red, and yellow glass, that the panes intercepted all dust falling perpendicularly, and for several days very little dust reached the contained water. A deposit of dust had meanwhile accumulated on the panes of glass. Finding little or no life in the distilled water, I washed the dust from the glass lids into the respective vessels, and on the following day repeated the examination. As usual, I observed particles of siliceous and fragments of organic substances, and, with a low power, these seemed to be imbedded in a gelatinous film. I had placed the little glass vessels themselves under the instrument, and after pouring off the water, examined the deposit with a power of about fifty diameters. On covering the sediment with a thin glass, and bringing a higher power to bear, I found the gelatinous film to consist of motionless transparent monads or cells, and carefully restoring the contents of the vessels, pouring back the water, I left them until the following day. During the night and day, the cells or monads had become endowed with rapid motion, and an examination of the water showed it to be peopled with myriads of active moving germs."

Here, then, is another phenomenon supposed to be attendant upon the creation *de novo* of lowly organisms in infusions, which I had observed and recorded years since in pure distilled water exposed to atmospheric action.

And this brings me to my recent investigations, conducted during the months of June, July, and August last. As considerable doubt has been thrown upon the existence of germs in the atmosphere by certain observers in their anxiety to prove the spontaneous production of the lowest plants

and animals, I first repeated my former simple experiments with distilled water, and this time I used open saucers, small glass well-dishes (those used to hold ink), and even test tubes.

On the 21st June I first exposed two saucers of distilled water to the air, and two days afterwards I found it to contain a little sediment of dust. On examination with the microscope, a drop of the water presented the appearance so frequently described by me. There were fragments of silex, soot, and minute moving germs. The latter I shall not attempt to dignify with scientific names; suffice it to say that the contrast between their movements and the molecular motions of particles of organic and inorganic matter afforded sufficient proof of their being endowed with life. I then filled two test-tubes with portions of this water, closed the opening of one with a sheet of cotton-wool, and left the other exposed to the air. From the 23rd June to the 5th July the weather was cold and rainy, conditions very unfavourable for the development of living germs; but between the 5th and 7th July the temperature had risen considerably, and I then examined the tubes. (It should be added that I had in the meantime added distilled water to that in the open tube to compensate for evaporation.)

The exposed water contained numerous zoospores, and unicellular forms. Some of these were quiescent and attached together in clusters; others in active motion. There were some small amoebae, small particles of protoplasm, with elastic cell-walls, well known to micro-zoologists. In these, not only the characteristic changing prolongations were visible, but I clearly followed the rhythmical movements of the contractile vesicle. From the other tube, the cotton-wool appeared to have excluded the dust and germs—the former having collected on the cotton, for I found no organisms of any kind. It is right, however, to mention that cotton-wool does not permanently exclude the germs; and in another case, where the conditions of development were favourable (if the view be correct that they are conveyed by the atmosphere), it will be found that the substance referred to failed to exclude them.

As to my saucers of distilled water, on going to examine them I found the contents dried up, but a considerable quantity of dust remained. This I scraped together; retained it until my return from a journey on the 19th July, and then submitted it to the following process in the laboratory of my friend Mr. Tate, of Liverpool, aided by his assistant:—

First we heated the dry dust in an open tube to 480° C., and then, allowing it to cool, we heated it again to 280° C. It had then caked, and after loosening it with a wire we added distilled water, and boiled it for a few minutes. Then I closed the tube containing the liquid temporarily with a little stopper of cotton-wool.

The same evening on examining the sediment with a power of 200 diameters, I observed many of the appearances described by investigators who have opened infusions after they have been kept *in vacuo* several days; some, for example, similar to those described by Dr. Bastian in his

first experiment recorded in 'Nature' of July 7th. But I did not feel justified in attributing the movements of the particles to their being endowed with life.

I then divided the chief part of the water containing the dust into two tubes, closing one with cotton-wool and leaving the other exposed, and a little of it was left in an open wine-glass. The open tube I examined on the 22nd, 23rd, and 24th July. The temperature was very high—82° in the shade—and the development of the little *Cercomonas*, so frequently described by me in former years* was very rapid, so that on the 25th its movements were clearly traceable amongst other lowly types.

The water in the wine-glass was again dried up, but the effect of the high temperature was surprising, and two hours after I had added a little distilled water to the dust I found it to contain clearly defined and active monads and other living types. I may here mention that the very warmth of the hand in which the slide is held will often render active and instinct with life little unicellular organisms which, on being first examined with the microscope, appear inanimate and motionless.

On the 28th and 29th July I again examined the tubes, opening the closed one on the latter day, and found that although the number of forms in that was much less than in the one that had been exposed, they were alike in character, and I showed to two astonished visitors who had never seen such appearances, active *amebæ* in water taken from both tubes.

Here my experiments with pure distilled water terminated, and, so far, they are not only confirmatory of what had been observed and described by me many years since, but they satisfied me that the solid floating contents of the atmosphere may be submitted to an exceedingly high temperature in the dry as well as moist condition without exterminating the living germs; and that when distilled water is added and the sediment is examined, either immediately or after a few days' exposure, even if the air has been excluded, it exhibits most of the phenomena believed by the advocates of heterogenesis to be proper to infusions which have been boiled and kept *in vacuo*.

And now I have to describe a second set of experiments, which may perhaps serve to throw light upon the appearance of those fungi which are frequently found upon decaying substances in the form of mould or mildew, and which Dr. Bastian believes he has been instrumental in creating spontaneously in organic and inorganic infusions. Two announcements recently made by the advocates of heterogenesis influenced the direction taken by my investigations. One was the statement contained in Dr. Bastian's account of his experiment No. 5,* that he had discovered in an infusion of turnip *in vacuo* which had been hermetically sealed five days, a reticulated substance which he calls "Leptothrix" filaments. The other was the discovery by Mr. Wanklyn, the chemist, of sufficient albuminous

* 'Journal of Science,' vol. i., p. 607, and elsewhere.

† Reported in 'Nature,' July 7.

matter in a pint of air to render it highly probable, from that circumstance alone, that the atmosphere is charged with living germs. Mr. Wanklyn strangely enough cites his discovery, triumphantly, as conclusive evidence of the absence of such germs, inasmuch as the quantity of albuminous matter was found to be very insignificant: but Dr. Beale, one of our most experienced microscopical observers, has expressed the view* that Mr. Wanklyn has found a volume of such matter, which, insignificant as it may appear, renders it highly probable that of the air tested by him "not a thimbleful could be taken without containing several" germs. Mr. Wanklyn's evidence certainly reads very much like that of a scientific witness for the defence in a case of murder, who seeks to show that the deed could not possibly have been committed upon a certain clean deal floor where it is said to have been perpetrated, inasmuch as he had carefully examined a square inch of the floor, and had only discovered the minutest spot of blood!

*As to the "Leptothrix" which Dr. Bastian found in turnip-juice, I may mention in passing that it is considered by microscopic botanists to consist of the mycelial filaments of mildew fungi,† and I believe from my own investigations, to be described presently, that if he had followed the growth of his "Leptothrix" he would have found it to be one of those plants. Now these mildew fungi are found not only in and upon decaying organic matters, but also upon bare stones and rocks, where they cannot be created *de novo*, but must necessarily result from atmospheric spores moistened by showers of rain. Coupled with the two circumstances just mentioned, the account given by Dr. Angus Smith of his mode of testing atmospheric air opened out to me a new field of inquiry. Dr. Smith's system of washing the air is admitted to be tedious and imperfect, though it may be the best in the cases with which he deals; but it seemed to me that no better method could be devised for ascertaining the nature of those substances which are held in suspension in the atmosphere than the one which nature provides in the form of rain collected as it falls from the clouds.

Two circumstances are well established as regards falling rain. The first is that at the commencement of a shower after a long-continued drought the rain brings down much more organic and inorganic matter than later on; and secondly, that after a heavy shower the atmosphere is for some time comparatively free from such matters.

Then as regards the discovery of filaments in infusions, I had tried some experiments with infusions of orange-juice, orange-peel, apple-juice, and cabbage-juice, in distilled water, freely exposed to atmospheric influences, in 1862 and 1863, and when Dr. Bastian's observations were published I recollected having found such a mycelium in orange-juice, and having corresponded with Professor Hoffmann about it, but as he could throw no light upon the

* 'Nature,' July 28 p. 255.

† 'Micrographic Dictionary (Van Voorst), article "Leptothrix."

appearance of the mycelium and I was unable to account for it, dropped the investigations. A record of these observations was however kept, and was discovered by me amongst some old papers whilst I was making the following experiments, and they will now be found of some service.

On the 4th of August, after a long continuance of intensely hot weather, we had a violent thunderstorm. I had been expecting and preparing for this, and at once proceeded to catch the rain as it fell, and at the same time, to prepare an infusion of filtered orange-juice in *pure distilled water*. This infusion I divided between two glass-wells, one of which I closed with cotton-wool, whilst the other was freely exposed to the atmosphere; and side by side with these I placed a tall champagne glass full of the rain-water which I had collected during the shower, and which contained numerous particles of dust.

None of these liquids showed any undoubted signs of life when I examined them with the microscope, before exposure. The infusion contained organic yellow particles; the rain-water organic particles, fragments of minerals, empty sheaths, empty cell-walls, and minute moving specks.

The very next day, however, August 5th, I was astonished to find in the open infusion of orange-juice the mycelium figured and described by Dr. Bastian as having been present in his infusion of turnips, or one closely resembling it; and in my infusion it was accompanied by innumerable minute unicellular oval organisms, the careful examination of which satisfied me beyond a doubt that they were an earlier stage of the thread-like filaments. Some of them were single, others were undergoing subdivision into two or more segments, whilst on the other hand some of the filaments were giving off cells exactly resembling the smaller detached ones.

During a long course of microscopical observation of biological changes, I never was so much astonished as on that occasion to find with what rapidity Nature (or that I may not be misunderstood—Nature's Ruler) brings back to active life the decomposing materials which have been its previous stronghold; and had I been led away by momentary impressions I could not have conceived it possible that the change had been produced in that case by any other process than heterogenesis, or the elevation of a portion of the organic infusion into organized types, without the auxiliary influence of pre-existing germs. But a little reflection reminded me that it is just these first surprises and impulses which lead men to disseminate erroneous views, as it was no doubt the extraordinary appearance of maggots and flies on some decaying carcase which gave rise to the idea of those insects being spontaneously generated there. I therefore contented myself with figuring the cells and the mycelium as they appeared under varying powers of the microscope on the day in question and the four following days and during that time the mycelium gradually developed into a true mould or mildew fungus, some of which floated on the surface. At the same time numerous ciliated infusoria made their appearance.

On the 9th August I opened the other glass-well containing the infusion, and found it covered in like manner with mildew. I carefully removed a

portion and delineated one of the dry full-grown filaments with a cluster of spores in its spore-case at the extremity. Of course I was surprised to find the progress which had been made in this closed infusion, but on consideration it soon occurred to me that if on the one hand the ingress of the first germs was impeded by the cotton-wool, on the other, the same agency prevented their egress when they were produced there, and compelled them to fructify in the vessel in which they were confined ; and moreover, whilst I had been daily disturbing the organizations in the open vessel, and adding distilled water to compensate for evaporation, the other had remained undisturbed during the whole period.

Then on examining, for the first time after exposure, the rain-water in the champagne glass, I there discovered large numbers of the same unicellular organisms as in the two infusions, some single, others undergoing subdivision, precisely as in the cases described (Fig. 4), and the natural inference to be drawn from this circumstance would be, of course, that the mildew fungi were the result, not of spontaneous generation, but of the introduction of germs from without. But here again it was necessary to exercise caution before coming to a conclusion. In the first place, the very fact which I have been trying to demonstrate, viz. the existence of innumerable atmospheric germs, at once suggested the probability that the germs in the rain-water which stood close to the infusions might have been wafted into it from the fungi growing in those infusions. And secondly, the slightest residuum in my dipping tubes, which I might not have cleansed properly, would suffice to account for the appearance of these cells. These doubts were partly cleared up at once.

On tasting the infusion which had been covered with cotton, I found signs of acid fermentation, and I examined drops from the surface as well as from the bottom of the liquid, for recent investigations on another subject had taught me that during such fermentation the biological phenomena vary in different parts of the fluid. At the bottom of the fluid I found clusters of large globular cells and on or near the surface groups of smaller elongated ones. I was at once induced to compare these with the cells of the yeast fungus (*Torula cerivisiae*) which are delineated in the 'Micrographic Dictionary,' and were said to have been found by the observer at the bottom and on the surface of fresh brewer's wort in which fermentation had just commenced. I could hardly find any difference between the two sets of cells, and in both cases those from the bottom of the fluid were round, whilst the surface cells were elongated. This is of course no proof of identity ; and although I strongly suspected that in the one case as in the other the germs had been introduced from without, I guarded myself from considering this as more than *prima facie* evidence. Another circumstance tended to show the correctness of this observation.

I had just found the notes of my experiments with infusions in 1863 ; and these entries had been made in connection with the infusion of orange-juice :—

"Aug. 3. Mycelium with minute cells."

"Like yeast-cells, 'Micr. Dict.,' Plate 20, Fig. 23."

"Aug. 7. The flocculent deposit tastes like mould." "No acid taste."

This description and the sketches which accompany it leave me in no doubt that the appearances were precisely those which I had observed last month, and the Plate and Fig. referred to in the 'Micrographic Dictionary' are strangely enough the same as I had a second time consulted after an interval of seven years, and which will be found copied in an article recently published by me on the manufacture of Beer.*

The same notes contained the following entries :—

1. In regard to an infusion of cabbage-juice exposed July 27th, and examined August 2nd—

"Homogeneous cellulæ.—Little or no motion, and nothing to indicate whether they were spontaneously produced from cabbage. *Closely resembled sessile monads in dust exposed under coloured glasses.* See paper before Academy" (des Sciences).

2. Concerning *pure distilled water* exposed August 2nd, 1863, examined 7th (temperature 70°)—

"A little mycelium, same as in organic matters."

The only difficulty I experienced was this. It seemed to me incredible that the same specific germs which (as I believed) had floated in the atmosphere in 1863, and had then found their way into and had become developed in infusions of orange and cabbage juice as well as in distilled water, should again be present in an infusion of orange-juice and in distilled water in 1870, but a further investigation soon decided the matter.

On the 22nd of August last, again, after continued warm dry weather, the rain set in, and during the first hour I succeeded in catching some direct from the clouds in two distinct localities : at my own house, which is in Everton, at the very outskirts of Liverpool, with gardens about, and trees and fields close at hand ; and also in Vauxhall Road, one of the most unhealthy of the lower parts of the town, where, notwithstanding the efforts of the sanitary authorities, the atmosphere is charged with smoke and other emanations from factory chimneys.

On examining the rain which had fallen in both these localities I found, naturally enough, no animal or plant germs in that from the lower part of the town, although it was highly charged with soot and various kinds of dirt ; but in that which had been collected near my house, I found on the same day a few of the unicellular organisms as before, some single, others undergoing sub-division ; also a little soot and silicæ. On the following day I expected these germs would have sprouted, and I was not mistaken. I had cleansed my tubes well with sulphuric acid, after having made them red-hot, and had taken every possible precaution to avoid fusion of the fluids or their contents ; but the result was unmistakable. The particles of soot and silicæ were present in the Vauxhall Road water, but no germs of any kind, nor any mycelium ; whilst that caught in Everton was full of

* "Beer : " see, 'Journal of Science,' July 1870.

unicellular organisms in various stages of growth and subdivision, and the particles of soot had become beds, as it were, in which the germs were sprouting, for out of them grew fibrous filaments precisely resembling those which I had first observed in the infusions. On the 24th (the following day) these filaments had assumed the form of a straggling mycelium, not so thick as in the former infusions, and not so much interlaced, but the identity of the organisms was quite undoubted. There were also swarms of minute rapidly-moving infusorial germs along with somewhat larger ciliated infusoria.

Coupling, then, my experiments of former years with those recently tried by me, the results, as far as they bear on this controversy, are as follows :—

In 1863. I found in infusions of orange and cabbage juice the germs and mycelium, which constitute the earlier stages of mildew fungi, and at the same time I found those lowly plant forms in pure distilled water which had been exposed to the atmosphere. Recently I again found this plant type in an infusion of orange-juice, and traced its growth into a mildew fungus. I also found it in pure distilled water, and afterwards, well developed, in rain-water caught as it fell direct from the clouds. This plant, or one closely allied to it, Dr. Bastian believes to have been spontaneously generated in an infusion of turnip-juice contained in vacuo in a closed tube.

Again in 1862-3. Dr. Balbiani in Paris, and I in Liverpool, found simultaneously in pure distilled water exposed to the atmosphere, and in dust taken from window-panes and elsewhere, various infusorial animalcules, especially one well-defined type, which I have again recently found in pure distilled water, and in dust which had been submitted to a high temperature. And that such animal germs are present in the atmosphere in all parts of the world, I showed some years since, by submitting to microscopical observation the dust shaken from rags which had been picked up in the streets of Tunis, Trieste, Melbourne, Bombay, and other places from which such rags are imported. These animal types, too, are believed by some to be spontaneously created in infusions.

Here I leave to the judgment of men of science the results of my experiments, which any boy possessed of a microscope may repeat as effectually as I have performed them. And if the believers in spontaneous generation still insist that their hypothesis has not been refuted, and that, assuming my observations to be correct, their view of the case has not been fully disproved, I am not prepared to deny this ; but on the other hand I must be permitted to retort that *their* experiments have only proved, so far, their inability, notwithstanding all their precautions, to exclude invisible germs from their infusions. As to the mysterious appearance of these microscopical types on their solutions in vacuo, what is it compared with the presence of some of the internal parasites of man and the lower animals ? And who would have credited twenty years since, the story of the wanderings and metamorphoses which those forms undergo before they find their way into the final habitat designed for them by Nature ? There is, however, very little chance of the controversy coming to an end at present. It is fascinating and exciting, and in so far quite in accordance with the spirit of the age. Nor is it desirable that it should cease, for it is causing microscopical observers to direct their attention more and more to the beginnings of life, and to the development of those living types which are visible only with the aid of the lens ; and I know of no subject more worthy of the consideration of biologists.—*Quarterly Journal of Science*, Oct., 1870.

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चरकसंहिता ।

सूत्रस्थानम् ।

द्वितीयाध्यायः ।

अथातोऽपामार्गतण्डुलीयमध्यायं व्याख्यास्यामः ।

इति ह स्माह भगवानात्रेयः ॥

अपामार्गस्य बीजानि पिप्पलीमरिचानि च ।

विडङ्गान्यथश्चिग्रूणि सर्षपांस्तुम्बुरूणि च ॥ १ ॥

अजाम्बीझाजगन्धाश्च पीलून्येलां हरेणुकाम् ।

पृष्ठीकां सुरसां श्वेतां कठेरकफणिष्फकौ ॥ २ ॥

CHARAKA SANHITA.

CHAP. 2. APA'MARGATANDULIYA.

AND now we shall expound the Chapter called Apámárgatandulíya, thus said the venerable A'treya.

1. The seeds of apámarga (अपामार्ग, *achyranthes aspera*), long-pepper, round-pepper, viranga, śigru (शङ्खना, *moringa hyperanthera*), sarshapa (श्वेत मरिचा), *sinapis dichotoma* and tumburu (तुम्बुरू, *coriander*),

2. Ajají (cumen seed, बज्जनि), ajagandha (बन बज्जनि, *ocimum gratissimum*), pilu (a tree found in central India, आकरोटी), elá (large cardamom), hareṇuka (called also renuka), prithvika (पृथ्वी, *nigella indica*), surasá (तुलसी, *ocimum basilicum villosum*), svetá (श्वेत अपराजिता, *clitoria ternatea*), kuṭheraka (कुठेरक, *ocimum sanctum*), phanijhaka (a kind of *ocimum*),

शिरীषबीजं लघुनं हरिद्रे लवणद्वयम् ।

ज्योतिष्मतीं नागरञ्च दद्याच्छीर्षविरेचने ॥ ३ ॥

गौरवे शिरसः शूले प्रीनसे.र्द्धावभेदके ।

क्रिमिव्याधायपश्चारे प्राणनाशे प्रमोहके ॥ ४ ॥

मदनं मधूकं निम्बं जीमूतं कृतवेधनम् ।

पिप्पलीकुठजेष्वाङ्गुन्येलां धामार्गवाणि च ॥ ५ ॥

उपस्थिते स्नेहपित्ते व्याधायामाश्रयाश्रये ।

वमनार्थं प्रयुञ्जीत भिषग्देहमदूषयन् ॥ ६ ॥

त्रिवृतां त्रिफलां दन्तीं नीलिनीं सप्तलां वचाम् ।

कम्पिलकं गवाक्षीञ्च क्षीरिणीमुदकीर्यकाम् ॥ ७ ॥

3. The seeds of śirīsha (acacia sirisa), garlic, turmeric, wood turmeric (eureuma zanthorrhiza), the two salts (rock salt, &c), jyotismati (heartpea, haliacabum cardiospermum, नगञ्ज), कटुकि, nágara (dry ginger)—These are used as cerebral purgatives (sluff),

4. In heaviness of the head, in headache, in catarrh (affecting the nose), in megrim, in worms (of the air-cells of the frontal bone), in epilepsy, in loss of smell, in fainting.

5. Madana (बग्नना, vangueria spinosa), liquorice, nimba (amela), jímúta (चोषा), kritabedhana (a kind of ghosha), long-pepper, kuṭaja (wrightia antidysenterica), iksháku (तिष्ठ गाँड), cardamoms, dhāmārgava (a sort of ghosha),

6. These, the physician will use as emetics, carefully, so as not to injure the system, in disorders of the phlegm and bile, and in diseases of the stomach.

7. Trivrita (तेउडि), the three fruits (आमला, हरितकी, बरुड), danti, nilini (रुख तेउडि), saptala (चन्दकषा), vacha

पीलून्धारम्बधं द्राक्षां द्रवन्तीनिचुलानि च ।

पक्षाश्चनते दोषे विरेकार्थं प्रयोजयेत् ॥ ८ ॥

पाटलाश्चाग्निमज्जश्च विल्वं श्लोणाकमेव च ।

काशमर्थं शालपर्णीश्च पृश्निपर्णीं निदिग्धिकाम् ॥ ९ ॥

बलां श्वदंष्ट्रां दृहतीमेरण्डं सपुनर्यवम् ।

यवान् कुलत्थान् कोलानि गुडूचीमदनानि च ॥ १० ॥

पलाशं कत्तृणश्चैव स्नेहाच्च लवणानि च ।

उदावर्ते विवन्धेषु युञ्ज्यादास्थापनेषु च ॥ ११ ॥

(zingiber zedoaria), kampillaka (कमल गुडि), gavākshi (a sort of cucumber, cucumis madraspatanus), kshirini (शिराई), udakir-jyaka (galadupa arborea, कुरञ्ज),

8. Pilu, āragbadha (मैदान), dried grapes, dravanti (anthericon tuberosum), nichula (barringtonia acutangula, रिखल),—These are used as purgatives in diseases of the intestinal canal.

9. Pātala (पारुल, bignonia suave-olens), agnimantha (गनिमन्ति, आग्नि, premna spinosa, verbenaceæ), vilva (वैल, ægle marmelos), syonāka (bignonia indica, मोला), kāsmaryya (गुडारी, gmelina arborea), śālparni (शालपानी, desmodium v. hedysarum gangeticum), prishniparni (पृश्निपर्णी, hemionitis cordifolia), nidīgdhikā (निदिग्धिका, solanum jacquini s. virginianum),

10. Valā (वाङ्गुल, sida cordifolia, malvaceæ), śvadang-strā (श्वदङ्गुल, tribulus lanuginosus, zygophyllaceæ), vrihatī (वृहती, solanum hirsutum), eraṇḍa (ricinus communis), panarṇava (पारुणि, hog-weed, boerhavia diffusa alata), barley, kulattha kalāi (कुलथ कलाई, dolichos uniflorus), kola (कूला, zysyphus jujuba), gurūchī (गुरुचि, cocculus cordifolius), madana,

11. Palāśa (पलाश, butea frondosa), kattripa (कट्तिपा, a kind of fragrant grass), all oils, all salts—these are used as āsthāpana

अतएवौषधगणात् सङ्कल्पमनुवासनम् ।

मातृतन्त्रमिति प्रोक्तः संग्रहः पाञ्चकर्म्मिकः ॥ १२ ॥

तान्युपस्थितदोषाणां स्नेहस्वेदोपपादनैः ।

पञ्चकर्म्माणि कुर्वीत मातृकालौ विचारयन् ॥ १३ ॥

मातृकालाश्रयावृत्तिः सिद्धिर्युक्तौ प्रतिष्ठिता ।

तिष्ठत्युपरियुक्तिश्चो द्रव्यज्ञानवतां सदा ॥ १४ ॥

(un-oily enemata) in *ulāvarta* (intussusception? suppression of all the secretions?), constipation and ischuria.

12. And these drugs may also be used as *anuvāsana* (oily enemata) for the cure of the wind.

Thus in brief are related the five varieties of evacuations (purgation, vomiting, snuffing, *āsthāpana* and *anuvāsana*).*

13. In disease the same five operations, as well as friction with oils and fomentations, should be performed with a due consideration of dose and time.

14. The proper application (of remedies), depend upon dose and time; success depends upon proper application; and he who can duly apply (remedies) always stands above him who only knows their properties.

* It will be seen from this and the previous *śloka* that enemata are divided into two varieties according to the nature of the substances employed in injecting. In the variety called *āsthāpana*, called also *niruhana*, the injecting fluid is made up of various substances liquid and solid, in which some oily matter is also added. But the oil not forming an essential part, and the injecting fluid not being all oil, this variety of enemata is called *rukshma* or *asnehika* (un-oily). In the variety called *anuvāsana* the injecting fluid is oil alone, either pure, or medicated, that is prepared by boiling drugs in it. Hence this variety is called *snehika* (oily). This distinction is also observed in *Susruta*. But as it is a distinction without an essential difference, we regard it, according to modern ideas, as quite an unnecessary one, because illogical.—*Ed.*

अतज्जं प्रवक्ष्यामि यवागूर्ब्विधौषधाः ।

विविधानां विकाराणां तत्साध्यानां निवृत्तये ॥ १५ ॥

पिप्पली पिप्पलीमूल चव्य चित्तकनागरैः ।

यवागूर्हीपनीयास्याच्छूलघ्नी चोपसाधिता ॥ १६ ॥

दधित्व विल्वचाङ्गेरी तक्र दाडिमसाधिता ।

पाचनीग्राहिणीपेयां सवाते पाञ्चमूलिकी ॥ १७ ॥

शालपर्णी बलाबिलैः पृश्निपथ्या च साधिता ।

दाडिमाश्लिहितापेया पित्तश्लेष्मातिसारिणाम् ॥ १८ ॥

पयस्यद्वौदके छागे क्षीवेरोत्पलनागरैः ।

पेया रक्तातिसारघ्नी पृश्निपथ्या च साधिता ॥ १९ ॥

15. And now I shall speak of gruels as formed by (a combination of) various drugs, for the cure of various diseases curable by gruels.

16. Gruel prepared with (the decoction of) long pepper, root of long-pepper, chavya (देह), chitraka (चिउ, plumbaga zeylanica), and dry ginger, increases the power of digestion, and relieves gastrodynia.

17. Gruel prepared with wood-apple (feronia elephanta, कथ (वन), vilva, wood-sorrel (आमरुत, oxalis monadelph), whey and pomegranates, promotes digestion and has an astringent effect. In diarrhoea from excess of wind, gruel prepared with five-roots (of vel, soná, gámár, páru, ganiyári) should be given.

18. Gruel prepared with śálparni, valá (sida cordifolia), vel, and prishparni to which is mixed the juice of acid pomegranates, is useful in diarrhoea from bile and phlegm.

19. Gruel prepared with diluted goat milk, (half milk, half water), hr̥vera (बान्), utpala (blue lotus, nymphaea cæruleus),

दद्यात् सातिविषां पेदां सामे साष्ठां सनागराम् ।

खट्वा कण्टकारीभ्यां मूत्ररुष्ट्रे सफाणिताम् ॥ २० ॥

विडङ्गपिप्पलीमूल शिग्रुभिर्मरिचेन च ।

तक्रसिद्धा यवागूः स्यात् किमिन्नी ससुक्चिका ॥ २१ ॥

चट्नीका शारिवा लाजा पिप्पलीमधुनागरैः ।

पिपासाघ्नी विषघ्नी तु सोमराजीविपाचिता ॥ २२ ॥

सिद्धावराहनिर्यूहे यवागूखृच्छणीमता ।

गवेषुकानां भट्टानां कर्षणीया समाक्षिका ॥ २३ ॥

सर्पिष्मती वृद्धतिला स्नेहनी लवणान्विता ।

कुशामलकनिर्यूहे श्यामाकानां विरूक्षणी ॥ २४ ॥

nāgara (मूत्र, cyperus pertenuis) and prisniparnī is useful in dysentery.

20. In mucous diarrhoea give gruel prepared with ātis, dry ginger, with some acid (juice of pomegranate).

In dysuria give gruel prepared with sadangstrā and kaṇṭakāri sweetened with treacle.

21. Gruel prepared with viranga, root of long-pepper, sigru round pepper, and whey, salted with suvarchchikā (sājimāti) is anthelmintic.

22. Gruel prepared with raisins, hemedesmis indica, fried paddy (टण), honey, long pepper, and dry ginger, allays thirst.

Gruel prepared with somrāj (serratula anthel.) destroys poison.

23. Gruel prepared with the meat-juice of the boar increases strength.

Gruel prepared with fried gavedhuka (गड्गुड), sweetened with honey reduces plethora (fatty).

24. Gruel prepared with ghee, excess of til, and salt is cooling.

दशमूलीकृता कासहिङ्गाश्वासकफापह्नी ।

यमके मदिरासिङ्गा मक्काशयश्चापह्ना ॥ २५ ॥

शार्कैर्भासैस्सिलैर्भाषैः सिङ्गावर्ज्यो निरस्यति ।

जम्बाम्बास्त्रिदधित्वाक्क विलैः सांघ्राहिकी मता ॥ २६ ॥

क्षारचित्तकहिङ्गश्चवेतसैर्भेदनी मता ।

अभयापिप्पलीमूल विश्वैर्वातानुलोमिनी ॥ २७ ॥

तक्रसिङ्गा यवागूः स्यात् दृतव्यापहिनाशिनी ।

तैलव्यापदि शस्ता तूतक्रपिण्याकसाधिता ॥ २८ ॥

Gruel prepared with kuśa (कुश, *poa cynosuroides*), āmlaka (आमलक, *emblica officinalis*) and śamā rice (*panicum frumentaceum*) is drying.

25. Gruel prepared with ten roots (दशमूल), is good for cough, asthma, hiccough, and phlegm.

Gruel prepared with ghec, oil, and spirits relieves pain of the intestines.

26. Gruel prepared with greens, meat, til, and phaseolus radiatus (माष कमाड़े) is laxative.

Gruel prepared with the kernel of jamba (जाम, *eugenia jambosa*), the mango, feronia elephanta, and vel with acids is astringent.

27. Gruel with alkali (from barley), chitraka, assafoetida, and amlavetas (अम्ल वेतन, *rumex vesicarius*), is purgative.

Gruel prepared with haritaki (*terminalia citrina*), root of long-pepper and dried ginger is carminative (expels flatulence).

28. Gruel prepared with whey is good for disorders arising from the use of greasy food.

Gruel prepared with whey and til paste is good for disorders arising from the use of oil.

गव्यमांसरसे साक्षाविषमञ्जरनाशिनी ।

कण्ठ्या यवानां यमके पिप्पल्यामलकैः शृता ॥ ३९ ॥

ताम्रचूडरसेसिद्धारेतोमार्गश्चापहा ।

समाषविदला दृष्या दृतक्षीरोपसाधिता ॥ ४० ॥

उपोदिकादधिभ्यान्तु सिद्धामद्विनाशिनी ।

क्षुधं हन्यादपामार्गं क्षीरगोधारसे शृता ॥ ४१ ॥

तत्र श्लोकाः ।

अष्टाविंशतिरित्येता यवाग्वः परिकीर्त्तिताः ।

पञ्चकर्माणि चाश्रित्य प्रोक्तो भैषज्यसंग्रहः । ३२ ॥

29. Gruel prepared with the decoction of beef and acids is good for inveterate intermittents.

Gruel prepared with two sorts of barley, long pepper and amlaka is good for diseases of the throat.

30. Gruel prepared with the decoction of the meat of the cock relieves pain of the urethra.

Gruel prepared with phaseolus radiatas, ghee and milk increases semen.

31. Gruel prepared with upodikā (उपोदिका, basella cordifolia) and curd takes off intoxication.

Gruel prepared with the seeds of Apāmārga, milk and decoction of the meat of godhā (गोधार्ग), destroys canine hunger.

Summary.

32. The twenty-eight varieties of gruel have been described.

The drugs in brief with the five operations have been described.

पूर्वं मूलफलज्ञानहेतोर्दत्तं यदौषधम् ।

पञ्चकर्माश्रयज्ञानहेतोस्तत् कीर्तितं पुनः ॥ ३३ ॥

स्मृतिमान् बुक्तिहेतुज्ञो जितात्मा प्रतिपत्तिमान् ।

भिषगौषधसंयोगैश्चिकित्सां कर्त्तुमर्हति ॥ ३४ ॥

इति सूत्रस्थाने द्वितीयोऽध्यायः ॥

33. The drugs which have been treated of in the 1st. chapter to give a knowledge of the roots and fruits, have been again spoken of in this chapter for giving an idea of the five operations.

34. The physician, who has a good memory and a knowledge of the causes and combinations, who can govern his spirit and who has quick decision, is alone fit to apply proper medicine for (the successful) treatment of disease.

On the principle of "better late than never," we redeem a pledge, or more properly speaking, we pay off a debt we owe to our indulgent subscribers, and the kind editors and proprietors of those Journals which we are favoured with in exchange. Though this quintuple number (Feb. to June 1871) is audaciously out of date, it will be found that we have filled it up with matter which can never be out of date at any time. Besides completing the article *Belladonna*, we have given the pathogeneses of *Apis* and of *Cedron*, culled from books and Journals not easily accessible to our Indian readers. We have inserted bodily, *verbatim et literatim*, the First Half-yearly (the only published) Report of the late Calcutta Native Homœopathic Hospital. We have given the text and translation of a Chapter of Charaka Sanhita. And we have lastly given interesting papers and documents in connection with the foundation of the Calcutta Medical College, including the earliest Introductory Lectures and Principal Bramley's Report, which we had great difficulty in procuring, and which would soon cease to be procurable.



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THE MATERIA MEDICA.

17.—BELLADONNA (Concluded).

Head:—

Objects seem to him to be balancing to and fro.

His head turns ; vertigo attended with nausea, such as is consequent upon turning quickly round in a circle, or such as is experienced upon walking from the morning sleep, after a night spent in revelry.

Sense as of turning in the head ; a similar sense as of turning is experienced in the pit of the stomach ; after rising, this symptom becomes so excessive, while walking, that she was unable to distinguish any thing ; every thing vanished from before her sight.

Vertigo, as though every thing turned round in a circle (after the lapse of one hour).

He walks round in a circle.

Sense of dullness, and as of turning in the head ; she feels relieved in the open air ; the symptoms become aggravated in the room (after one quarter of an hour).

Fits of vertigo, both when at rest and in motion.

While sitting, sense as of reeling in the head, resembling vertigo.

Vertigo, and tremor of the hands; the persons were unable to perform any kind of work with them.

When walking, he reeled, held on to the walls, complained of oppressive anguish and vertigo, and often spoke without sense, like an intoxicated person.

She rises from bed early, and totters to and fro as if she were intoxicated.

Staggering, arising from giddiness.

Fits of vertigo attended with obtusion of the mind; these symptoms last a few minutes (after twelve hours).

The whole day his senses are confused; he knows not what he does.

Obtusion of the mind.

Obnubilation of the head, with glandular swellings in the nape of the neck (after six hours).

Intoxication. Sense of intoxication immediately after dinner.

Intoxication after drinking ever so little beer.

Obnubilation of the head, and intoxication, as from drinking wine, with a bloated, red countenance.

His whole head feels confused and dreary for a number of days.

Obnubilation such as occurs in intoxication.

Obnubilation of the forepart of the head, as though a pressing fog were moving to and fro, especially below the frontal bone.

Obnubilation of the head, as from drinking much brandy, and smoking much tobacco.

Obnubilation and obtusion of the whole head, such are experienced in a state of incipient intoxication.

Obtusion of the head, increasing during motion.

Reluctance to all sorts of mental labor.

Mental weakness. Lassitude of both the mind and the body.

Obstupescence. Confusion of the mind; he knows not whether he is dreaming or walking.

Confusion of the senses; he feels sleepy and is nevertheless awake; while in that state he imagines he dreams.

Her exalted but deluded fancy brings a quantity of beautiful images before her mind as by a charm.

He imagines he sees ghosts and various kinds of insects.

The nose appears to her to be transparent.

He imagines he sees things which are not present.

It seems to her as if a spot upon the left side of the head were transparent and brown.

He imagines he is riding upon an ox.

He does not recognize his own relatives.

Absence of consciousness ; he was sitting as in a dream.

He often lay without his senses, without consciousness.

Loss of sense, and spasms in the arm at night.

Highest degree of stupor.

Loss of sense, with convulsions of the extremities.

Complete loss of sense ; she is not conscious of herself.

Intellection has entirely disappeared.

Loss of intellection for some weeks.

Stupidity.

She has headache, during which she loses her ideas ; she forgets that which she thought of a little while ago, and is not able to recollect it.

Absence of mind ; he easily does his business wrong and forgets things which he had just intended to do.

He had at times this, at times that idea ; he was not able to think of any thing regularly, and he immediately forgot things which he had thought of a moment ago, or about which he had just been reading.

Diminished memory.

Very feeble memory ; he forgets what he intended to do in the twinkling of an eye ; and cannot recollect any thing.

Return of the lost memory.

He remembers things which had taken place a long time ago.

He remembers things which took place three years ago.

Vivid memory (curative effect,) (after twenty-four hours).

Violent headache.

Headache, as if the brain were stunned.

His whole head feels heavy as from intoxication.

Sense of weight in the upper part of the forehead, which causes vertigo, and induces a sense of intoxication (after a fortnight).

His head feels heavy as if he were going to fall asleep; he is not disposed to do any thing.

His head aches, but only above the eyes; the headache is like a weight in the head, and is experienced early on waking up; when touching the eye he feels a pain.

Sense of weight with violent pressure in the whole of the occiput (after two hours and a half).

Heaviness of the head as though it were about to fall down.

Early in the morning, headache, as if something were descending in the forehead from above the eyebrows, by which the opening of the eyes is prevented (after four hours).

Aching, with sense of weight from the centre of the brain towards the temples, attended with decrease of hearing in both ears.

Aching in the right vertex; afterwards this aching is alternately felt in the left and then again in the right vertex.

Headache, especially in the forehead (after two days).

Continuous dull headache in one of the sides of the head (after five and twenty-four hours).

Sense as of aching in the head, especially in the lower part of the forehead, close above the nose; this aching becomes insufferable on setting the foot down for the purpose of standing or walking.

Headache above the orbits, as though the brain were pressed into a smaller space; this pain obliges him to close his eyes.

Aching under the right frontal eminence, which soon extends over the whole forehead (after ten minutes).

Violent pressure under the right frontal eminence.

The aching below the right frontal eminence decreases at intervals, but then returns with increased violence.

Aching under the frontal eminences, early in the morning, shortly after having waked up, upon rising from bed.

Violent aching in the left frontal eminence, pressing from without inwards; by leaning this side of the head upon the hand, the aching is felt in the whole anterior half of the brain (after three quarters of an hour).

Violent aching from within outwards in the whole left half of the brain, especially violent in the forehead (after two hours and a quarter).

Aching in the region of the right temple; when leaning the head upon the hand, the pain increases as if the head would fly to pieces, and extends as far as the right frontal eminence (after eight hours).

Erratic pressure in the head, and always extending over large surfaces.

Aching in the forehead; during motion it increased so much that it caused his eyes to close (the German text is that it drew his eyelids together); the headache became milder when he was obliged to lie down; then the headache disappeared; upon rising it reappeared at once and lasted for two days; neither eating nor drinking made it worse during that period; as soon as he walks into the open air, the forehead feels pressed upon as though it should be crushed; the pressure is as if it came from a heavy stone resting upon the forehead; on the third day the headache disappeared entirely while he was sitting in his room.

Aching, deep in the brain, which is felt over the whole head, both when walking, and after having walked in the open air.

Headache in the forehead pressing like a stone; the pain is relieved by resting the head upon something, and bending it over; this pain is attended with a dilatation of the pupils, and a whining and peevish mood produced by trifling causes (after three hours).

Tension and pressure in the right side of the forehead.

Tension and pressure in the left vertex, and in the forehead (after twenty-four hours).

Headache, as though the head were made smaller from side to side, by both sides being screwed together.

Continuous and forcible dilatation of the whole brain.

Violent pressing in the whole head from within outwards, as though it should be dashed to pieces (after three hours).

Headache close above the orbits, in the forehead, as though the brain were pressed out; the eyes remain forcibly closed on account of the pain, the pupils being contracted to the highest degree, and the voice being scarcely audible; the person has to lie down.

When stooping, the person feels a pain as though every thing would press out at the forehead.

Sensation as if the brain were pressing towards the forehead ; upon bending the head backwards, this sensation passed off (after one hour and a quarter).

When coughing, the sensation as if the head were being pressed asunder from within, increases considerably (after 3 hours and a half).

In the open air, the sensation as if the head would burst became very violent ; he dares not cough, because he fears lest this should increase the pain.

Throbbing pressing in the left side of the occiput.

An aching in the forehead frequently obliges him to stand still when walking ; at every step the brain feels as if it ascended and descended in the forehead ; the pain decreased by strongly pressing upon the parts.

Violent pulsations in the forehead, with pain as if the bone were being raised.

Pulsations in the head and in most parts of the body, when waking up.

Violent throbbing in the brain from before backwards and towards both sides ; externally, this throbbing terminates in the shape of painful stitches.

Aching, with a sense as of gnawing, on the right side, in the upper part of the head, descending as far as the ear ; this pain is occasioned by a transitory gnawing pain in a hollow tooth.

Stitching ache in the temples, from within outwards.

Cutting ache in the temples, from within outwards ; this pain becomes more and more violent, and spreads through the brain, where it is felt as a violent throbbing ; it continues in any position.

Aching, with a sense as of rending, in the head, especially in the frontal and temporal region ; the pain is wandering.

Rending ache in the right temple and vertex ; the pain spreads in different directions.

Rending ache in the head, erratic.

Drawing ache.

Traction in the head extending towards the forehead, as if the brain would dilate.

Drawing pain extending from the temple across over the right side.

Traction downwards, in the temples and the right orbit.

Boring and throbbing in the ride side of the head, a similar pain existing in the cheek; the symptom increases at every motion.

Boring and aching in the head, in different places, by day; this pain becomes stinging in the evening.

Boring pain in the right frontal eminence, early in the morning, shortly after waking up.

Continually drawing and distending headache, as if something were rocking in the head, imparting the sensation of jerks.

Jerking headache, which becomes extremely violent when walking or going up stairs fast, and which, whenever the foot is set down in walking, produces a sensation in the occiput, as if a load were darting down.

The whole of the head is affected with a stitching ache, especially the forehead.

Dull stitches in the left temple from within.

Slightly stitching ache in the whole forehead.

Sharp stitches through both frontal eminences from within outwards.

Excessive headache; dull stitches dart through the brain in all directions.

Violently stitching ache in the right temple, a quarter of an hour.

A few dull stitches in the left side of the occiput.

Violent cutting in the right frontal eminence, more violent when stooping, less when touching the parts.

Stabbings, as with a double-edged knife, dart through the head, in the evening.

Stabbing, as with a knife, from one temple to the other.

A few lancements traverse the occiput, immediately behind the ear, as fast as lightning; they almost made him scream, in the evening.

Stabbings, as with a double-edged knife, in the right side of the head; afterwards they are felt in the forepart of the head, then in the vertex, and lastly in the occiput, so that she is prevented from lying on any side.

Three violent lancements through the head, from the forehead to the occiput; after these all previous headache disappears.

Lancinations, with rending in the head over the right orbit.

Cutting and tearing pain in the head, moving from one place to another.

Burning and tearing pain in the left frontal eminence.

Rending pain in the right side of the vertex ; it is more violent during motion.

Tearing in the forehead. Tearing in the forehead, externally.

Tearing over the eyebrows.

Violent tearing headache in the forehead.

Headache on the top of the head, a kind of turning, at times tearing ; the pain becomes much more violent by external pressure ; it seemed to her as if her skull were quite thin and could be pressed through.

Traction in the forehead.

Drawing pain in the frontal bone and in the nape of the neck, both when at rest and in motion.

Headache ; the sutures of the skull feel as if they were being torn asunder ; feeling in the head as if a lever were being applied for the purpose of breaking it to pieces.

Sensation as of swashing in the brain.

When stooping, the blood rushes to the head ; the head feels heavy and giddy.

Congestion of blood to the head, without any internal heat ; when bending the head backwards, it seems to him as if the blood were rushing to the head.

Heat in the head (in front over the head).

Pain externally, over the whole head, such as is felt in the integuments after violently pulling the hair.

Finely stinging burning on the left frontal eminence.

Cutting headache on the left side of the occipital protuberance.

Drawing pain, when at rest (after dinner), on the right side of the head, and at the same time, in the right arm.

Quickly passing cramp-like pain on the right side of the upper part of the head.

Cramp-like pain at the root of the nose.

Violent cramp-like pain in the frontal eminence ; it extends across the zygoma down to the upper jaw.

Sensation, externally, of a contraction of the muscles of the

forehead and eyes.

Titillating itching of the forehead.

Painful boil on the temple.

Red, painless pimples appear on the temple, about the right corner of the mouth, and on the chin ; when scratched, a bloody water oozes out.

(Headache every day, from 4 o'clock in the afternoon until 3 next morning, increased by warmth of bed and a recumbent posture).

(Headache aggravated by moving the eyes, by concussion and by a current of air.)

Scalp:—

Swelling of the head.

Considerable swelling of the head and redness over the whole body (in two boys).

Falling off of the hair, for an hour.

The hair of the head, which was heretofore affected with an electric power, is so no longer.

The integuments of the head are so painful, that even the pressure of the hair gives her pain.

(Profuse sweat of the hairy scalp.)

Face:—

Clawing pressure on the left zygoma.

Tearing and drawing under the right zygoma.

Pressure under the right zygoma.

Distracted features. Uneasy look.

Paleness of the face ; with thirst ; with increased appetite.

Sudden paleness of the face, for some time.

An extreme paleness of the face is instantaneously changed to redness of the face, with cold cheeks and hot forehead.

Feeling of heat in the face without any external redness.

Feeling of a burning heat in the whole face, without redness of the cheeks, and without any thirst, with a moderately warm body and cold feet.

Sensation of a tingling heat in the face, under the skin.

Uncommon redness of the face.

Violent redness and heat in the face, without any sweat.

Red, hot face, with icy-cold extremities.

Glowing redness of the face, with violent, inexpressible headache.

Heat and redness only about the head.

Sweat only in the face.

Congestion of blood to the head ; red cheeks.

Great heat and redness of the cheeks.

The face is very much swollen and hot.

Redness and heat in the whole face, as if he had drunk much wine.

Heat in the face the whole day, as if wine had caused the blood to rush to the head.

Dark-red face.

Thickening of the skin in the face, as if an eruption would break out.

Bluish-red face, with great heat of the body, in the evening.

Scarlet redness of the face and chest during sleep.

Scarlet redness of the skin of the body, especially the face, accompanied by great cerebral action.

Scarlet-red spots in the face, with a strong pulse.

Sudden shivering, with great cloudiness of the head and face, red eyes, and swelling of the face which is covered, especially on the forehead, with small, dark-red spots of various sizes.

Early, on waking up, a small blue-red spot on the left cheek, which increases gradually, until the blue-red swelling occupies the whole cheek, with burning and stitching in the part which is red, and boring and throbbing in the whole cheek ; the pain greatly increases by motion ; in a few days the other cheek swelled, and the swelling lasted eight days.

Red and swollen face with staring eyes.

The face was red and swollen, the rest of the body pale.

Swelling in the cheeks with a burning pain.

Hard, large swelling in the face near the nose and eye, with swelling of the parotid glands, which lasted five days.

Swelling of the left cheek near the eye, which comes on in the afternoon, increases the day following, is then affected with heat, and lasts five days.

Swelling of the face, and especially of the lips.

Erysipelas of the face.

Nervous prosopalgia, with violent cutting pains.

Pressure, cramp-feeling, tearing, and drawing in the malar bone.

Stitches in the articulation of the jaw when chewing as far as the ear, or from the ear to the chin.

Drawing in the upper lip, with subsequent red swelling of the same.

Ulcer on the lip, which bursts open.

Painless pimple below the left wing of the nose, with a white tip.

Ulcerated corners of the mouth, near the commissure, with tearing pains round about, even when left untouched or unmoved.

Sore feeling in the corners of the mouth, as if they would become ulcerated.

Small pimples on the lips, covered with a scurf, and smarting as if they had been touched by saltish water.

Pimple on the upper lip, tingling when not touched; contact excites a stinging itching in it.

Ulcer with a red edge, and corrosive itching in the corners of the mouth.

The lower and external border of the lips is affected with a burning pain, and covered with small vesicles.

(Scirrhus induration, and cancer of the lips?)

The lips, and especially the upper lip, become chapped in the middle, when sneezing or coughing.

A pimple on the border of the lip, at an equal distance from the centre and the corners; the pimple changes to an ulcer covered with a crust, and is painful like an inflamed part.

Spasmodic movements of the lips.

The right corner of the mouth is drawn outwards.

Risus sardonicus; spasmodic distortion of the mouth.

Bloody foam at the mouth, vacillation of the head and gnashing of teeth from morning till noon.

Bloody froth at the mouth, shortly before death.

Little pimples between the lip and the chin, filled with pus, affected with a burning smarting pain, and especially painful at night.

Pimple on one side of the chin, stinging and itching, but more stinging than itching; this sensation goes off by scratching.

A number of small pimples on the chin, resembling rash, and burning when touched.

Sharp stitches in the chin, (immediately).

Spasmodic pricking sensation in the chin.

Swelling of the submaxillary glands.

Red blotch in the angle of the lower jaw, stinging when pressing upon it.

Eyes:—

Continual winking of the two eyelids.

Continual trembling and winking of the right upper eyelid ; it lasts the whole day, and finally becomes painful.

The eyes are wide open, owing to a greater retraction of the eyelids.

Throbbing pain in the lower eyelid, towards the inner canthus ; the spot where the pain is, is swollen and inflamed, with a good deal of lachrymation, for half an hour.

His eyes close and become watery.

Heaviness in the eyes, especially the upper eyelid.

After waking up in the morning, her eyes close again spontaneously ; she is not able to keep them open till she gets out of bed.

Itching stitches in the inner canthi, which only go off for a while by rubbing.

The inner canthus of the left eye is very painful, even when slightly touched.

Smarting in both eyes.

Involuntary lachrymation. Saltish water continually runs out of the eyes.

Dryness in the eyes, nose, mouth, oesophagus.

Feeling of burning dryness in both eyes, alternately more violent in one or the other.

Pain and burning in the eyes.

Increased heat and feeling of heat in the eyes.

Feeling of heat in the eyes ; they felt as if they had been surrounded with a hot vapor.

Photophobia, with spasmodic movement of the eyes occasioned by the light ; he avoids looking at the light.

Burning of the eyes, accompanied by an intensely painful itching ; both symptoms disappeared upon the eyes being pressed upwards.

Injected condition of the white of the eye early in the morning, with aching.

Inflammation of the eyes, turgescence of the veins of the cornea, with a titillating sensation.

(Interstitial distention of the sclerotic.)

(Specks, thickening, and ulcers of the cornea.)

Inflammation of the eyes; the conjunctiva is traversed with red veins, with a stinging pain; the eyes run.

Stitches in the eyes, from without inwards.

Yellowness of the whites of the eyes.

Early in the morning, the eyelids are completely agglutinated.

Swelling and suppurative inflammation of the left caruncula lachrymalis; the pain being, first burning, afterwards the parts ache for three days.

General pressure in both eyes, as if hard well-water had got into the eyes.

When closing the eyes, she feels an aching deep in the eyeball.

A kind of pressure as from a fog, is felt in the right orbit; it then is felt in the forehead, then again in the orbit.

Pressure in the eyes with lachrymation, especially early in the morning.

Tingling and aching of the eyes; they felt as if they had been full of sand; she had to rub them.

Pressure in the eyes, as if sand had got in.

Pressure in the eyes as of a grain of sand.

Pain in the orbits; the eyes sometimes feel as if they were being torn out; sometimes—and this symptom is more lasting—as if they were being pressed into the head; this pain is accompanied by another pressing from the forehead downwards upon the eyes.

Tearing in the eyes, which extends from the inner canthi.

Drawing pain from under the left eye, upwards.

The pupils are contracted; it is extremely difficult to dilate them.

The pupils are contracted the whole day; they do not dilate till evening.

The pupils commenced to dilate in half an hour; the dilatation increased little by little.

Dilatation of the pupils in the evening, even when the light is held quite near.

The dilatation of the pupils continues to increase after the third day.

Extreme dilatation of the pupils. Dilated, immovable pupils.

A white little pustule in the left pupil, which is moreover extremely dilated.

Extreme dilatation of the pupils, owing to the application of a recent leaf of the plant to an ulcer below the eye.

The faculty of vision is at times entirely extinct, at times only diminished, the pupils being immovable and enormously dilated.

Entire dilatation of the pupil of the right eye, and blindness for three weeks, owing to the juice of the plant having got into the eye.

Obscuration of sight consequent upon a dilatation of the pupils.

Blindness, the pupil of the right eye is extremely dilated and is incapable of contraction.

Great obscuration of vision. The eyes see dim and black.

Amaurosis for three days, he cannot read any thing printed.

On waking up he is blind.

The eyes are blinded and remain open.

Excessive weakness of sight.

Transitory blindness with headache.

Dimness of sight alternating with cramps of the hands and feet; obnubilation of the head, and faintishness of the limbs.

Dimness of sight, dryness of the mouth, and pain in the belly.

Dulness of sight with trembling of all the limbs.

He sees nothing distinctly, except remote objects and parallel rays, for instance a star in the heavens; owing to the juice of belladonna having got into the eye.

Presbyopia as in old age; he was only able to read large print.

Obscuration of sight, as if fog were before the eyes.

When reading, he distinguishes nothing except the white margin which surrounds letters; these seem to have taken the shape of black rings.

Sensation as if he were not able to see any thing; he saw nevertheless when straining his eyes.

When reading, the letters look blurred, and appear blue and gold-colored.

The eyes see a large ring around the light, of several colors, especially red ; the light sometimes appears to be mere rays.

When laying her hand upon her swollen cheek, she sees flames before her eyes, and the air looks to her like fog.

She sees a white star at the ceiling of her room, of the size of a plate ; white silvery little clouds seem to pass by it from the left to the right ; this symptom is seen several times and in different places ; large bright sparks before the eyes.

He sees sparks before the eyes.

When moving the eyelids, he sees sparks, like electric sparks.

One sees things double.

He sees nothing near him, things at a distance he sees double.

He sees things multiplied and dark.

He sees things wrong side up.

The eyes feel as if they protruded.

The eyes protrude with dilated pupils.

Staring eyes. Staring look.

The eyes are staring and sparkling.

Shining, glistening eyes, with entirely dilated pupils.

The eyes are red, glistening, and turn in their sockets.

The eyeballs turn convulsively in a circle.

The eyes become distorted.

Spasms of the eyes.

Eyes and hands are constantly in a sort of spasmodic motion.

The eyes become distorted, with redness and swelling of the face.

Ears :—

When chewing, there are violent stitches in the articulation of the right jaw ; they extend as far as the ear, and continue even after the chewing, but then they have more the shape of twitchings.

Fine stitches in the fossa between the coronoid process and the condyle of the lower jaw.

Stitches extending from the upper jaw into the internal ear.

Stitches in the parotid gland.

Violent stitch in the right parotid gland, extending as far as the external ear ; here it terminates in a sort of cramp, and then disappears ; the following day this symptom is felt again at the same hour.

Inflammatory swelling of the parotid glands.

Tearing pain on the posterior side of the cartilage of the left ear.

Pressure with tearing on the lower half of the cartilage of the right ear.

Tearing in the external right ear; the tearing was felt from before backwards.

Tearing from above downwards in the external and internal ear.

Tearing pain in the external ear of the right side, and in the whole side of the face, from above downwards.

Stitches in the external meatus auditorius.

Pinching in the ears, first in the right, then in the left, immediately after hiccough.

Disagreeable pressing in the meatus auditorius, as if one were boring into it with the finger.

Sensation in the external meatus auditorius, as if some one were pressing upon it.

Disagreeable feeling in the right ear as if it were violently torn out of the head.

Pain in the ears and temples, which is alternately tearing from within outwards, and pressing from without inwards; this pain alternates with a similar pain in the orbits.

Painful straining in the left ear.

Sharp thrusts, with clawing, in the internal ear, like a painful straining.

Boring pain, near the right ear.

Pressure and tearing behind the right ear.

The muscles behind the left ear are painful, the pain extending as far as the neck; the muscles feel as if violent pressure were made upon them, the frontal muscle feels the same.

A stitch darts from the ear as far as the chin.

Stitches in the external ear, with hardness of hearing of that ear.

Stitches in the internal ear, occurring during eructations tasting of the ingesta.

Drawing pain from the ears as far as the nape of the neck.

Violent pressure on the mastoid process below the ears.

Cutting thrusts through the mastoid process from without inwards.

Puriform liquid coming out at the ears, for twenty days.

Increased sensitiveness of the meatus auditorius.

Tingling in the ears.

Din in the ears as of trumpets and cymbals, also like the whizzing of the wind, (immediately ;) afterwards humming and murmuring, worst when sitting, relieved when standing or lying, still better when walking.

Roaring of the ears, vertigo and dull colic.

Wind rushes out at the ears.

Fluttering and a sort of bubbling noise in the forepart of the ears.

Deafness as if a skin had been drawn over the ears.

Hard hearing. (Hardness of hearing from a cold, after cutting the hair).

(Acute Otitis).

Nose:—

A couple of small red blotches near the root of the nose, painful only when touched, as from subcutaneous ulceration.

Pimples on the cheeks and nose, becoming quickly filled with pus, and covered with a crust.

Cold nose.

Aching in the nasal bones.

Pain as from bruises in the nose, above the wing, when touching the parts externally.

Smell before the nose, as of rotten eggs.

Diminished smell.

The sense of smell is too sensitive ; the smell of tobacco-smoke and soot is intolerable to him.

Bleeding at the nose, immediately ; during the night ; early in the morning.

Painful drawing across the left half of the nose.

Tingling in the tip of the nose, going off by friction.

Fine stitches in the tip of the nose, the whole night, beginning in the evening.

Sudden redness of the tip of the nose, with a burning sensation.

The left nostril is very painful, and becomes closed by ulceration early in the morning.

Fine stitches under the nose.

Violent swelling of the upper lip ; it feels tense when opening the mouth.

Painful ulcerated condition of the nostrils on the side where they become united with the upper lip.

Ulcerated state of the nostrils and the corners of the lips ; but they neither itch nor pain.

Jaws and Teeth:—

Lockjaw ; inability to open the jaws, on account of a painful stiffness of the muscles of mastication.

She closed her teeth so firmly that they could not even be opened when using great force, accompanied by convulsions in all the limbs, and chilliness.

She closed her teeth so firmly that one had to break out a tooth, in order to pour some liquid down her throat.

Stitches and tension of the jaw, in the direction of the ear.

She feels as if her lower jaw were drawn in ; she experiences great pain when drawing it forwards, and excessive pain when biting.

Red tumor near the corner of the lower jaw, hard, painless of itself ; when touching it, one experiences painful stitches on the lower border of the right lower jaw.

Sense as of bubbling on the lower border of the lower jaw.

(Darting drawing ?) pain in the lower jaw (in the glands ?) ; the pain darted through the jaw from without inwards, and went off speedily.

Violent grinding of the teeth.

Grinding of the teeth with much foam at the mouth, smelling like rotten eggs.

Grinding of the teeth, and spasm of the right arm.

Grinding of the teeth with copious saliva running from the mouth.

Violently painful swelling of the right side of the gums, with fever and sensation of chilliness.

Vesicles on the gums below one of the fore-teeth, painful like burns.

Ulcerative pain of the gums when touched.

Heat in the gums ; itching and throbbing in the gums.

Extremely troublesome itching of the gums, with pains in the throat.

The gums of a hollow tooth are bleeding.

The hollow teeth bleed when pulling at them with the tongue, without any pain.

Drawing in the anterior molar teeth of the right side of the upper jaw, remaining unchanged in whatsoever condition the part be placed.

Tearing pain in the lower hollow tooth, and the sound molar tooth by the side of it; the pain becomes excessive, when the tooth is in contact either with air or food.

Toothache, rather drawing than lancinating.

Toothache, with drawing in the ear.

He wakes up after midnight, with a violent tearing in the teeth.

Uniform, simple toothache, resembling a sore pain, brought on by the open air.

The toothache does not come on during the meal, but several minutes after the meal; it increases and decreases gradually; does not come on after drinking.

Toothache, in the evening after lying down, and when engaged in some kind of intellectual activity; a numb pain in the dental nerve, almost resembling a sore pain, or a continuous lancination in severe cases.

Toothache; sharp drawing from the ear down into the hollow teeth of the upper jaw; in the teeth the pain became boring, less when eating, increasing after the meal, never ceasing entirely by day, but worse at night, and hindering sleep; (after drinking coffee, the pain became jerking and boring).

Dull drawing in the upper and right row of teeth, the whole night; the pain hindered sleep; the affected spot was somewhat swollen, (painfully burning), and hot to the touch; painful jerks were occasionally felt in the teeth.

Stinging pain in one of the upper, hollow molars, lasting the whole day; from pain he sleeps only a little during the night; afterwards the cheeks become swelled.

[Grinding (searching) toothache, (lasting only a short while.)]

The fore-teeth feel too long.

The teeth are painful when biting, as if the roots were ulcerated, and would break off immediately.

Painful dartings or bubblings in the nerves of the roots of one or more teeth.

Mouth:—

Sensation as if the mouth were more spacious, as if the tongue were lower than usual.

Sensation in the upper side of the tongue, as if it had gone to sleep, as if it were dead and furred, in the morning.

Sensation of coldness and dryness in the anterior half of the tongue.

The whole of the tongue is painful, especially to the touch.

Cracked tongue, white-coated, with ptyalism.

Smarting pain in the middle of the white-coated tongue, as if there were a vesicle.

Feeling in the tip of the tongue, as if it had a vesicle upon it, painfully burning when touched, lasting two days.

The papillæ are bright-red, inflamed and considerably swollen.

Tremor of the tongue.

Stuttering of the tongue.

Stammering weakness of the organ of speech, with unimpaired consciousness and dilatation of the pupils.

He stammers like a man intoxicated.

Passing aphonia.

Paralytic weakness of the organs of speech.

Speechlessness; he does not utter a sound.

Dumbness.

Heavy speech, heavy breathing and great lassitude, consequent upon the oppressed condition of the chest.

He has great difficulty in talking; his voice is sibilant, nasal.

Low speech, with headache, as if the brain were being pressed out, close over the orbits, in the forehead; the pain hinders the opening of the eyes, and obliges one to lie down, with great contraction of the pupils.

The tongue is covered with a quantity of yellowish white, tough mucus.

Tenacious mucus in the mouth.

A long string of tenacious saliva hangs out at the mouth.

Profuse ptyalism; (mercurial.)

Soreness of the inner side of the cheek: the orifice of the salivary tubes feels corroded.

He frequently throws up a tenacious mucus.

He has a quantity of mucus in the mouth, especially early in the morning after rising, somewhat of a putrid taste.

The saliva in his throat was thick, tenacious, white and sticking to the tongue like glue; this obliged her to moisten her mouth continually.

Slimy mouth, with a sensation as if a bad smell came from his mouth, as is the case when the stomach is deranged.

The mouth is full of mucus, early in the morning ; he has to wash it from time to time ; the mucus passes off after a meal.

Slimy mouth, early in the morning when waking up, with headache, both symptoms lasting but a short while.

Early in the morning, when waking up, he has a very bad smell from his mouth.

Great feeling of dryness in the mouth, with irritable mood ; nevertheless both the mouth and tongue look moist.

Feeling of great dryness in the mouth ; there was very little tough mucus on the tongue, and the lips were hot and peeled off.

Tough mucus in the mouth with a feeling of dryness.

Dryness in the mouth.

Feeling of great dryness in a moist mouth, the mouth being viscid ; accompanied with a good deal of thirst.

Considerable dryness in the throat.

Dryness in the mouth with thirst.

Parched condition of the mouth, as if the skin had been destroyed by something acrid or corrosive.

Dryness in the mouth, which can scarcely be relieved.

Excessively dry feeling in the mouth ; nevertheless the tongue was continually moist.

Excessive dryness of the mouth, which contracted his throat.

Great dryness in the mouth, constricting his throat and fauces ; there was no mucus ; moderate thirst ; he was able to swallow milk.

Dryness in the mouth, the fauces and nose.

He is unable to swallow from dryness in the mouth, the fauces and the nose.

Hæmorrhage from the mouth.*

Hæmorrhage from the mouth and nose.

* NOTE : This hæmorrhage tended in death. Even after death, blood flows from the nose, mouth and ears of those who have been poisoned by *Belladonna* ; they assume a blackish violet tinge either only in the face, or one side of the body, or over the whole body, or else they are covered with gangrenous spots ; the cuticle soon peels off, the abdomen becomes distended, and sometimes putrefaction sets in in twelve hours. (Eb. Gmelin and Faber.)

Throat:—

Roughness (scraping) of the throat, when the throat is at rest.

Rawness and soreness of palate, especially painful when touching it with the tongue or when chewing, as if the parts were excoriated, lasting several days.

Pain in the throat.

Fine tearing in the inner surface of the angle of the left lower jaw, in the left tonsil and behind it, unaltered by contact, more violent during deglutition.

Dryness in the fauces and burning on the tongue.

Burning sensation in the fauces.

Violent burning in the throat, the mouth being naturally moist; the burning is not relieved by drinking, but by sugar, however for a few moments only.

Long-continued, burning pain in the fauces; food and beverage cause a burning sensation in the mouth, like spirits of wine.

Inflammation of the throat and fauces.

Continual desire to swallow; he felt as though he would suffocate when not swallowing.

Sore throat; stitches in the fauces, and pain as from an internal swelling; felt only when swallowing and when turning the neck, or when touching its side, but neither when at rest, nor when talking.

Internal swelling of the throat.

Soreness of the throat when swallowing or spitting.

Sensation as of a swelling, rather towards the left side.

(Sensation as of a lump which cannot be removed.)

Pain in the throat, and colic.

Sore throat, getting worse every hour; heat, roughness, constriction, sore feeling.

Difficult and painful deglutition.

Violent lancinating pain in the throat when swallowing or breathing.

Stitches in the left side of the throat, being the same whether one swallows or not.

Inflammation of the tonsils; they suppurate in four days; during this period he was unable to swallow a single drop.

Impeded deglutition. Painless inability to swallow.

Considerable constriction of the fauces.

Short-lasting, but frequently recurring contraction of the oesophagus, more during than between the acts of deglutition. This symptom is always followed by a painful scraping in the region of the epiglottis, as if the parts were raw and sore.

Sore throat; swallowing excites a scraping sensation in the epiglottis, or as if it had become sore by the rubbing.

Painful contraction and narrowing of the fauces; when preparing the parts for the act of deglutition, a tension and stretching is experienced in them, although deglutition is not accomplished; during the act of deglutition itself the pain does not increase; the sensation as of the fauces being contracted is of itself a painful one.

When swallowing one experiences a sensation in the throat as though the parts were too narrow, contracted, as if nothing would go down.

They were unable to swallow solid food.

He chews his food without being able to swallow it, because his throat felt as if it were contracted.

During her loss of consciousness she frequently thrusts her fingers into her throat, stretches her gums and presses her throat with both hands.

He has the greatest trouble in swallowing water, and can only get down very little of it.

Aversion to every kind of liquid; she demeans herself frightfully when seeing it.

Pouring drinks down her throat makes her mad.

Paralytic weakness of the inner parts of the mouth.

Pressure in the throat with choking, rising from the abdomen, unaccompanied by either nausea or vomiting.

Appetite and Taste:—

Loss of taste. Insipid taste in the mouth.

Disgusting taste, the tongue being clean.

Spoiled taste of the saliva.

Putrid taste in the mouth, as of spoiled meat, two hours after eating.

A putrid taste rises from the fauces, also while eating or drinking, although both food and drink have a natural taste.

Flat sweetish taste in the mouth.

Viscid taste in the mouth.

Saltish, sourish taste in the mouth.

Salt taste of the food, as if every thing were too salt.

In the beginning of the meal the aliments tasted naturally ; all of a sudden they either tasted too salt, or were tasteless, or had a flat taste, with sensation in the pit of the neck as if she would throw her food up again.

Bread tastes and smells sour

Aversion to milk, whereas she was very fond of it formerly ; now the smell of milk is disgusting and repulsive to her ; it has moreover a bitterish, sourish taste, which disappears when drinking a little more of the milk.

In the evening bread and butter taste very sour to him, at least the last mouthfuls ; this was generally followed by some heartburn, which continued two hours, (eight evenings in succession.)

(Bitter taste of the bread and apples, in the evening.)

Coffee is offensive to her.

Aversion to camphor.

One feels an appetite, but has no desire for any one kind of food.

Total aversion to all sorts of nourishment and drinks, with frequent weak pulse.

Complete loss of appetite.

Want of appetite with headache.

Diminished appetite ; meats especially are repulsive to him.

Repugnance to beer and acid things.

Long lasting aversion to food.

No appetite ; every thing was loathsome to him.

(He has a desire for this or the other thing ; but when eating it, he does not relish it.)

He loses his appetite after smoking.

Loss of appetite with a feeling of emptiness and hunger ; when beginning to eat, he eats with his usual appetite.

Increased appetite, (curative effect.)

Appetite for vegetable soup, and bread and butter, for nothing else.

Absence of thirst.

Desire for drinks, without caring about drinking ; he approached the cup to his lips and then set it down again immediately.

Excessive thirst in the evening with watery taste; nevertheless, every kind of beverage is disgusting to her.

Great thirst for cold drinks, without any heat.

Violent, burning, suffocative, unquenchable thirst, with inability to swallow the least drop, or with great aversion to drinks. (He drinks with a trembling haste.)

Violent thirst at dinner, (returning for several days at the same hour.)

Stomach :—

A peculiar contractive sensation in the stomach after eating a little.

Cough and great thirst after a meal.

Feeling of intoxication immediately after a meal.

Violent pinching below the umbilicus after a meal, directly behind the abdominal integuments.

Internal heat after taking beer.

Eructations, tasting of the ingesta.

Eructations with want of appetite.

Eructations and vertigo.

Unsuccessful inclination to eructations.

Half suppressed, incomplete eructations.

Putrid eructations.

Burning, sore eructations, and acrid sour humor rising into the mouth, with a kind of choking.

Heartburn (when smoking tobacco;) a scraping, burning, smarting sensation is for a long time felt about the lower border of the fauces, and mostly about the upper border of the larynx.

Accumulation of water in the mouth, in the evening, for half an hour.

Nausea and inclination to vomit in the throat (not in the pit of the stomach) with occasional bitter eructations; in the evening.

Qualmishness after breakfast.

Frequent attacks of nausea in the forenoon.

Inclination to vomit, when walking in the open air.

Nausea in the stomach.

Nausea with inclination to vomit, especially when he is about to eat something.

Frequent nausea and retching.

Nausea, inclination to vomit, and such a vehement thirst, that they were obliged to drink an excessive quantity of water.

Vomiting, in the evening.

Vomiting, vertigo and flushes of heat.

Vomiting and profuse sweat.

Vomiting of mucus, towards noon.

Vomiting of bile and mucus.

Vomiting of indigested food which had been taken twelve hours previous.

Vomiting, immediately followed by sleep for a couple of hours.

Inclination to vomit ; unsuccessful retching.

Retching and yawning until the face becomes blue, whilst he extends one of his hands above his head, and with the other strikes violently upon his abdomen.

He wakes three times about midnight ; three times he feels as though he would vomit, being at the same time covered with sweat as from anguish ; but no vomiting takes place.

Unsuccessful inclination to vomit ; empty retching.

He is unable to vomit ; the stomach is not susceptible of being irritated.

He does not even vomit after taking fourteen grains of tartar emetic ; he does not even feel nauseated.

Repeated attacks of violent hiccough.

Violent hiccough, which caused her to start up into the air ; this was succeeded by deafness lasting till the next attack.

Violent hiccough about midnight.

An intermediate symptom, partly eructation, partly hiccough.

Eructation resembling hiccough ; spasm composed of eructations and hiccough.

Nightly hiccough with violent sweat.

Convulsions of the head and limbs after hiccough ; afterwards nausea and lassitude.

Hiccough with alternate convulsions of the right arm and left lower limb ; afterwards violent thirst with redness and heat of the head.

Painless throbbing and beating in the pit of the stomach.

Violent pains in the region of the pit of the stomach.

Hard pressure in the stomach, especially after a meal.

Periodical pain in the pit of the stomach, with tremor, at night.

Pressure in the stomach after having eaten something.

Pressure in the pit of the stomach, partly gnawing.

(Stitching ache in the left side below the ribs.)

Fulness below the short ribs ; when stooping, the pit of the stomach feels full and the sight is obscured.

Violent pressure in the stomach after a meal, and afterwards also a long while after.

Painful pressure in the pit of the stomach, felt only when walking ; he has to walk slowly.

Air seemed to have gathered below the sternum ; it passed off by producing a rumbling in the abdomen, after which the nausea increased more and more.

Spasm of the stomach, resembling a cramp.

Chronic spasm of the stomach ; it always occurred during a meal.

After eating a little food, he felt a peculiar contractive sensation in the stomach.

Inflation of the epigastrium after lying down in the evening, with tensive pain in the stomach.

Contractive pain in the pit of the stomach.

Burning in the stomach.

Stitches in the pit of the stomach.

Excessive, lancinating and cutting pain in the pit of the stomach, which forces one to bend the body backwards, and to check the breathing.

Inflammation of the stomach.

Abdomen :—

Inflammation of the upper part of the duodenum.

Burning in the abdomen.

Continual colic.

Colic, constipation, enuresis with cructations and inclination to vomit.

Colic, a few stitches after taking milk.

Pain in the abdomen, a few hours previous to going to bed.

Colic, spasmodic tension, from the chest deep into the abdomen ; this tension is so violent that he is unable to move his body in the least.

Colic and leucorrhœa.

Pressure in the abdomen as from a stone, in the evening, with pains in the loins.

Colic, as if the abdomen were pressed upon by a hard load ; the pain is only felt when standing or walking ; it passes off when sitting.

Pressure in the hypogastrium as if from a heavy load.

Sensation in the right abdominal ring, when bending over while sitting, as if a hard body were pressing out, without the spot being hard to the touch.

Sensation in the abdomen, directly below the umbilicus, as if the intestines pressed from within outwards, mostly when standing.

When pressing upon the scrobiculus cordis, one feels a pain in the side of the abdomen, pressing from within outwards.

Distended, but neither hard nor painful abdomen.

Distended, hard abdomen.

Sensation as if the abdomen were distended, with constrictive colic below the umbilicus, coming on in jerks, and obliging one to bend double.

Distension of the abdomen around the ribs ; with protrusion of the colon like a pad.

Distension of the abdomen, accompanied by rumbling or grunting in the intestines of the left side.

Aching of the abdomen, which is drawn in (when lying down).

Clawing, constrictive pain in the lowermost intestines, alternating with dull stitches or jerks in the direction of the perinæum.

Constriction of the abdomen around the umbilicus, as if a ball or lump would form.

Directly after rising, in the morning, a violent tensive aching in the abdomen, especially in the pubic region ; sensation as if the hypogastrium (rarely the epigastrium) were spasmodically constricted, sometimes as if it were distended, (this however, is not really the case ;) gradually increasing and decreasing pains.

Contraction of the abdomen in the umbilical region.

Gripping and straining around the umbilicus, which obliged him to bend over.

Contractive pain in the abdomen ; she is obliged to bend from pain.

Colic, as if a spot in the abdomen were seized with the nails, a griping, clutching, seizing as with talons.

Contractive straining in the umbilical region, especially about noon and in the afternoon.

Violent contractive griping in the right side of the abdomen when walking, accompanied by sharp stitches darting from that side through the right side of the chest and the axilla.

Extremely painful contractive gripings in the umbilical region coming from both sides and meeting in the umbilicus.

Pinching colic ; he is obliged to sit with his body bent double, with unsuccessful inclination to diarrhoea and subsequent vomiting.

Pinching in the intestines.

Pinching in the side of the abdomen, the region of the liver ; the pain was so great that he was unable to rise from his seat.

Pinching transversely across the epigastrium and downwards in the colon.

Violent pinching in the hypogastrium, which increases in violence by drawing the abdomen in, and bending the upper part of the body on the left side.

Lancinations in the inguinal glands.

Fine stitches in the left groin.

Dull stitches in the right side of the abdomen, near the last ribs.

Violent lancinations between the right hip and the umbilicus, as if a dull knife were being thrust in.

One single cutting lancination from the umbilical region round the left hip as far as the lumbar vertebræ, where it is most painful.

Dull lancinations, as if with a knife, below the umbilicus on the left side.

Stitching ache in the umbilical region.

Cutting ache early in the morning, when in bed, in the left side of the abdomen upon which he rests ; the pain disappears when turning to the other side.

Violent incisive pressure in the hypogastrium, in alternate places.

Cutting in the whole lower part of the abdomen, most violent in the left side.

Itching stinging about the umbilicus, passing off by rubbing.

Heat with anxiety in the abdomen, chest and face, with obstruction of the nose.

Heat from below upwards, a sweat as of anguish breaking out upon her; afterwards nausea with horrible anguish, the nausea descending more and more in the abdomen.

Long lasting painfulness of the whole abdomen, as if it were all sore and raw.

Violent repeated rumbling in the abdomen.

Loud rumbling in the abdomen, with a sensation as if all the contents were engaged in a confused motion.

Rumbling and pinching in the abdomen.

Frequent emission of inodorous or almost inodorous flatulences.

Stool:—

Shuddering, during stool.

Desire for stool with sensation in the abdomen as if diarrhoea would come on, accompanied by heat in the abdomen.

Papescent stool mixed with mucus.

Heat in the head alternating with diarrhoea.

Diarrhoea, inclination to vomit and pressure in the stomach.

Granular, yellow, somewhat slimy stool.

(Stool smells very sour.)

Stool white as lime.

Green stool, with enuresis and sweat.

Several watery stools immediately after profuse sweat.

Soft, diarrhoeaic stool in the beginning; afterwards, frequent tenesmus, little or no stool being passed.

Unusually diminished stool; only small evacuations taking place for several days.

Urgent desire for stool; it is thinner than usual, but not diminished.

Frequent thin stools with tenesmus; he had to go to stool every quarter of an hour.

Tenesmus; diarrhoeaic stool is passed in small quantity, followed immediately by increased tenesmus.

Frequent desire for stool, without any evacuation taking place, or else little and hard stools being passed.

Tenesmus and colic. Tenesmus, no stool.

Vomiting after tenesmus.

Tenesmus, constant pressing and bearing down in the direction of the anus and the genital organs, alternating with painful contraction of the anus.

Pressure in the rectum, towards the orifice.

Constipation; inflation of the abdomen and heat in the head.

He is unable to exercise any pressure during stool.

Contractive pain in the rectum, afterwards sore pain in the epigastrium, followed by quick discharge of slimy diarrhœa, lastly tenesmus.

Violent itching of the anus.

Violent, constrictive sensation of the anus.

Violent sudden, painful itching of the rectum and anus.

Itching of the outer side of the anus (when walking in the open air.)

Pleasant itching of the anus.

Single, sudden lancinations in the rectum (during motion).

Hæmorrhoidal flux for several days.

Involuntary discharge of fæces, paralysis of the sphincter ani.

Small, sudden, involuntary stools.

Urinary Organs:—

Suppression of stool and urine for ten hours.

Suppression of stool and urine, accompanied by profuse sweat.

Troublesome micturition.

Retention of urine, which comes off only drop by drop.

Frequent and urgent desire to urinate.

Frequent desire to urinate, the urine being passed in very small quantity, although of a natural color.

Frequent and urgent desire to urinate, the emission being scanty.

Continual desire to urinate.

Yellow, turbid urine.

Clear, lemon-colored urine.

Urine yellow as gold.

Light-yellow, clear urine.

(Whitish urine.)

Urine with white, thick sediment.

The urine becomes turbid, like yeast, with reddish sediment.

Frequent and copious emission of pale, thin, watery urine.

Emission of a quantity of watery urine with sweat.

Emission of a large quantity of urine, with increased appetite and coldness of the skin to the touch.

Enuresis with profuse night-sweats.

Enuresis, especially in the morning, thirst and obscuration of vision.

Enuresis with sweat, good appetite and diarrhoea.

Enuresis, diarrhoea and appetite.

Enuresis with appearance of the menses.

Enuresis, paralysis of the neck of the bladder.

He passed his urine, by day, while in a deep sleep.

Inability to retain the urine.

Sensation of writhing and turning in the bladder as if there were a large worm in it, without any desire to urinate.

Dull pressure in the region of the bladder at night.

Smarting pain immediately after micturition, in the outer border of the prepuce.

Genital Organs :—

Male.—Itching titillation in the forepart of the glans, resembling a flea-bite.

Repeated tearing in the left spermatic cord from below upwards, before falling asleep, in the evening when in bed.

The prepuce recedes behind the glans ; this causes a disagreeable sensation in the denuded glans.

Lancination all along the urethra.

Violent pressing towards the genital organs, as if all the contents of the abdomen would issue from them ; worse when sitting crooked or when walking, relieved when standing or sitting straight.

Dull stitches in the urethra between the acts of micturition, behind the glans, especially during motion.

Drawing in the seminal cords during micturition.

Discharge of the prostatic juice from a relaxed penis.

Soft, painless tumor on the glans.

Sweat of the genital organs, at night.

Lancinations in the testicles, which are drawn up.

Nightly emission of semen, the penis being relaxed.

Violent lancements in the pubic region at every step, apparently in the internal genital organs.

Nightly emission of semen, unaccompanied by lascivious dreams (the first night).

He remains indifferent, when thinking of the difference of the two sexes; he is unable to conceive any lewd or lascivious ideas; the sexual instinct seems to be extinguished in his fancy.

Voluptuous images or tales excite neither his fancy nor his sexual organs; they leave him indifferent.

Female.—The appearance of the menses is preceded by lassitude, colic, want of appetite and dim sightedness.

The menses are accompanied by sweat of the chest at night, by nightly yawning and thrills of chilliness over the back.

Anguish about the heart during the menses.

Great thirst during the menses.

Cramp-like tearing at times in alternate parts of the back, at times in the arms during the menses.

The menses appear four days too soon.

Increased flow of the menses; they delay until the 32d, 36th, and 48th day.

(Menses suppressed, or too pale.)

Pressing early in the morning, as if all the contents of the abdomen would issue from the genital organs, (with distention of the abdomen;) when the pressing was over, the abdomen contracted, and a white mucus was discharged from the vagina.

Stitches in the inner parts.

(Great dryness of the vagina.)

(Prolapsus and induration of the uterus.)

(Flow of blood between the periods.)

(Metrorrhagia, blood being bright-red with lumps.)

Badly smelling hæmorrhage from the uterus.

Leucorrhœa and colic.

Galactorrhœa.

Cold. Catarrh :—

Frequent sneezing.

The nose is at times obstructed, at times it discharges water.

Catarrh, or cough with coryza.

Fluent coryza from one nostril only.

Coryza, with smell of herring-pickle in the nose, especially when blowing the nose.

Hoarseness. Rough, hoarse voice.

Weak and whizzing voice.

Aphonia.

(Great painfulness of the larynx with danger of suffocation when touching or turning the throat, when coughing, talking, or taking breath.)

Chest :—

Noise and rattling in the bronchial tubes.

Every inspiration causes an irritation bringing on a dry cough.

Violent cough about noon, several days in succession, with discharge of a large quantity of tenacious mucus.

Coughing fit, with subsequent heat.

Night-cough, frequently waking her from sleep ; when the cough is over, she immediately falls asleep again.

Coughing fit, as from dust which had been inhaled ; the cough wakes one up at night, and is accompanied with expectoration of mucus.

Violent, dry cough (in the forenoon,) as if a foreign body had got into the larynx ; with coryza.

Itching titillation in the back part of the larynx, in the evening when in bed, causing an irresistible dry cough.

One feels as if something were lodged in the pit of the stomach, which continually excites a cough.

Sensation as of a dry catarrh having settled in the chest, which continually excites a dry cough.

The upper part of the trachea is affected ; he coughs up a purulent substance resembling old catarrhal mucus, (early in the morning when in bed and after rising.)

Cough, commencing at ten o'clock in the evening, and returning every quarter of an hour, or at shorter intervals, in paroxysms of three or four fits at a time.

Cough with a bloody taste in the mouth.

Expectoration of bloody mucus, early in the morning when coughing.

(Hollow and rough, scraping cough.)

Violent cough during sleep, with gnashing of teeth.

Cough with prickings in the side under the left ribs.

Violent aching in the neck, as though it would break ; during a fit of cough.

Dry short and hacking cough, with a scraping sensation in the throat.

(When coughing, the child presses with great force, and is very much out of humour.)

(The child becomes calm previous to every fit of cough, and cried directly before the cough commenced.)

(The coughing fits terminated with sneezing.)

(The stomach turns when coughing, and he vomits even when fasting.)

Oppression of the chest.

Difficult respiration.

- Violent, small, frequent, anxious inspirations.

Pressure in the præcordial region ; this arrests the breathing and causes a feeling of anguish.

Pressure on the chest (which affected the heart.)

Sensation as if the heart were oppressed ; she was not well able to breathe, accompanied by nausea which rises to the throat as if she would vomit ; the oppression of the heart and nausea alternate every seven minutes.

Short breathing brought on by drinking a cup of coffee (in the afternoon.)

Frequent oppression of the scrobiculus cordis during a walk ; a sort of spasmodic sensation which obliges him to take deeper inspirations.

Violent oppression across the chest, as if it were being compressed from both sides.

Asthma.

Feeling of oppression in the chest, in the evening when in bed, which does not pass off by coughing on purpose ; he had difficulty in taking an inspiration, as if he had been prevented from so doing by mucus in the trachea ; accompanied by a burning in the chest.

At times he breathed, at times he appeared to have breathed his last ; these fits occurred four times in the space of a quarter of an hour.

Burning in the right half of the chest.

Heat suddenly rises from the abdomen into the chest, and passes off very fast.

Stitches in the sternum when coughing or yawning.

Fine stitches under the clavicle from before backwards, during a walk.

Fine stitches in the left side of the chest extending from the sternum towards the axilla, more violent during motion; uninfluenced by breathing.

Fine stitches in the chest.

Continuous stitch entering deep into the right side of the chest uninfluenced by breathing.

Stitches in the side of the chest under the right arm; they arrest the breathing towards evening.

Stitches in various places under the skin, in the right side of the chest, rather towards the outside.

Stitches in one of the mammæ.

Quickly passing stitches under the two last ribs, as with a dull knife, by the side of the ensiform cartilage and above the false ribs.

Pinching-stitching pain in the chest on both sides of the upper part of the sternum.

Incisive pressure on the right side of the chest, coming and going, uninfluenced by breathing.

Continuous itching pressure in the cartilage of the left ribs, increasing in violence during an expiration, and then almost passing into a burning sensation.

Sharp pressure in the region of the sixth rib from within outwards.

Sharp ache in the sternum, immediately above the ensiform cartilage.

Aching below the right nipple.

Aching in the chest and between the shoulders.

Aching in the chest with short breathing, likewise between the shoulders when walking or sitting.

Clawing ache (crampy pressure) in both halves of the chest.

Beating pain between the sternum and the scrobiculus cordis.

Pressure in the right half of the chest, causing an anxious feeling.

Great uneasiness and beating in the chest.

(Palpitation of the heart, when at rest, as if the concussion extended to the neck, increasing during motion, with difficult and slow breathing.)

A sort of palpitation of the heart when going up-stairs, a kind of bubbling sensation.

Corrosive pain below the cartilage of the last ribs.

Painful blisters on the sternum, containing water.

- * Chest and thighs are covered with dark-red, very small spots of different sizes.

The breasts become filled with milk (in a female who is not pregnant,) the milk running out; on the left mamma appeared small scattered pimples with a tingling and itching sensation; relieved by friction.

Tremor of the heart, with anguish and an aching pain.

Back :—

The ischia feel sore; as if there were no flesh on them; nevertheless she feels more comfortable when sitting on something hard, than on something soft.

Dull, intensely painful drawing in the whole circumference of the pelvis; this pain is also alternately felt in the os sacrum and the ossa pubis.

Spasmodic sensation in the left lumbar region.

Intense cramp-pain in the small of the back and the os coccygis; he can only sit for a short while; sitting makes him stiff and unable to rise again from pain; he cannot even lie down well; frequently wakes at night and has to turn to another side on account of the violence of the pain; he is absolutely unable to lie upon the back; he is relieved mostly by standing and walking about slowly; however he cannot walk fast (for 8 days.)

When rising from his seat, he feels a pain in the region of the crest of the ilium as if a sharp body were protruding.

Rheumatic pain in the back.

Aching on the left side of the spinal column, under the false ribs.

Gnawing in the dorsal spine, and cough.

Lancinating and gnawing pain in the dorsal spine.

Lancinations from without inwards in the vertebræ, resembling stabs with a knife.

Pain, as from a sprain, in the right side of the back and the spinal column.

Cramp-like, oppressive sensation in the middle of the spinal column, becoming tense when attempting to straighten the back.

The back, especially the scapulæ, are covered with large, red pimples; the whole skin looks red, and feels sore when touched; in the tips of the pimples the prover experiences a fine stinging.

Pain in the head passing into the scapulæ.

Boil upon the shoulder.

Aching under the left scapula, more towards the outer side.

Drawing pressure between the right scapula and the dorsal spine.

Pain between the scapulæ, as if the parts had been strained by lifting.

Violent drawing between the scapulæ along the spine, in the evening.

Cramp-pain, almost like pinching, between the right scapula and the dorsal spine.

(Titillating itching of the left scapula.)

Itching stinging of the right scapula, inducing one to scratch the parts.

Stinging itching of the scapulæ, going off by scratching.

Fine stitches about the right scapula.

Repeated stitches, as if caused by the electric fluid, from the left scapula to the right.

Stitching pressure on the top of the left shoulder.

Painful stiffness between the scapulæ and in the nape of the neck when turning the neck and head to and fro, early in the morning.

Neck:—

Swelling of the cervical glands, painful at night; not painful during deglutition.

Stitches in one of the cervical glands.

Cramp-like, tensive sensation of the left cervical muscles, even in rest.

The head is drawn backwards, burying of the head into the pillow.

Stiff neck, she is unable to lay her head on one side.

Drawing in the cervical muscles.

Drawing aching in the right cervical muscles.

Fine stitches in the pit of the throat.

Sense of pressure on the left side of the larynx, increased by external pressure.

Perceptible pulsations of the carotids.

Aching of the nape of the neck, close to the occiput, not influenced by motion.

Violent, frequently recurring stitches in the nape of the neck, in the region of the second and third cervical vertebra, when raising the head.

Aching in the outer side of the neck, when bending the head backwards or when touching the parts.

Glandular swelling on the nape of the neck, with cloudiness of the head.

Pimples appear on the arm and nape of the neck, becoming quickly filled with pus, and afterwards are covered with a crust.

Superior Extremities:—

Painful swelling of one of the left axillary glands.

Swelling of the affected arm and foot.

Extension and stretching of the upper limbs.

Rheumatic pains of the arm with tingling followed by convulsions of the same arm.

The arm feels stunned and painful.

Swelling of the arm.

Feeling of great exhaustion in the arms, more yet in the hands, as though she ought to let them hang down.

Weight in both arms.

Weight and paralytic condition of the upper limbs, more however of the left one.

Paralytic weakness in the right arm, afterwards also in the forearm.

Paralytic pressure on the left upper arm with paralytic sensation and weakness in the whole of the left arm.

Paralytic drawing pressure, with weakness, in the right arm.

Paralytic tearing and pressure in the anterior surface of the left upper arm.

Spasm of the right arm with gnashing of teeth.

(Painful) twitchings in the arms, more in the right than in the left.

He raises the right arm above his head involuntarily, and without being aware of it.

Traction downward, in the muscles of the right upper arm; when the traction had reached the lower part of the upper arm, a few dartings occurred from the elbow to the axilla; after which the symptom ceased for a while.

Convulsive concussion of the upper limbs, as if caused by an excessive shuddering.

Concussive spasms of the upper limbs.

Constant intorsion (twisting inwards) of the arms and hands.

He occasionally extends his arms and hands, as if he would catch something.

Violent lancinating pain resembling stabs with a dull knife, below the head of the humerus, from within outwards.

Stiffness in the right arm, upon which she had not lain; she felt it at three o'clock in the morning and was not able to bend the arm; the arm felt as if it were shorter than the other, and was affected with a tearing pain.

Drawing pain in the inner side of the left upper arm.

Tearing pain in the humerus.

Pain, as from bruises, in the upper arms.

Tearing pain in the humerus.

Creeping along the left arm, as when a fly walks over the skin; it cannot be relieved by rubbing.

Pimple on the left arm below the elbow-joint, dark-red, without sensation or pus, sore to the touch.

Pimple below the right elbow, painfully stinging when touched.

(When moving or touching the elbow, it pains as if it were burnt.)

Rumbling in the bend of the left elbow, as if water or a heavy liquid were running through the veins.

Cutting pain in the interior of the left elbow-joint, when walking.

Sharp stitches in the outer side of the left elbow-joint.

Paralytic drawing pain in the elbow, and the fingers of the left hand.

Fine stitches in the upper surface of the left forearm.

Dull stitches in the middle of the interior of the forearm, which increase gradually, and finally become very violent.

Cutting tearing in the lower muscles of the right forearm, (when at rest.)

Cutting tearing in the lower muscles of the left forearm.

Paralytic tearing in the carpal bones.

Lancinating tearing in the metacarpal bones of the left hand.

Tearing and pressure in the metacarpal bones, and the anterior joint of the left index finger.

Copious, cold sweat of the hands.

The dorsa of both hands are covered with small red spots, disappearing again speedily.

Swelling of the hands.

Feeling of stiffness in the right hand and the fingers ; she was not able to bend them.

He is not able to turn the hand freely and easily ; he can only turn it by starts, as if there were a deficiency of the synovial fluid in the carpus ; however this impeded motion is painless.

Painful drawing in the posterior joints of the left and middle fingers of both hands, apparently in the periosteum thereof.

- Paralytic drawing in the middle-joint of the right index-finger.

The anterior joint of the middle-finger feels stiff, and is painful when bending it.

Tearing cutting in the muscles of the little finger of the right hand.

Sharp stitches in the metacarpal bone of the thumb.

The tips of the fingers of the left hand are painful as if they were jammed.

Chilliness of the body, with stitches in the tips of the fingers from within outwards, especially when seizing something.

Pain in the tip of the middle-finger, as if some foreign body had become lodged in it and had produced ulceration ; the pain is greatest when touching the part.

Blister on the finger with painful inflammation.

Pustule, breaking out close to the nail of the right index-finger, and emitting a quantity of humor.

He has no trouble in putting the ligaments of the fingers upon the stretch, and causing the joints to crack.

Inferior Extremities:—

(Coxalgia, with burning stinging in the articulation, most violent at night and by contact.)

(Stiffness in the hip-joint after sitting, with difficulty in rising from the seat.)

Soreness on the inner side of the thigh.

Pain of the thighs and legs as if they were bruised, and crumbling like decaying wood ; a finely stinging and gnawing pain in the direction of the long bones, accompanied by violent

tearing in the joints; the pain gradually rises from the tarsal joints to the hips, obliges one to move the feet and change their position constantly while sitting, and is relieved by walking.

Occasional lassitude of the feet, with a drawing pain in the same.

A sort of stretching; he is obliged to extend the lower limbs.

Heaviness of the thighs and legs when walking, accompanied by stiffness of the knee-joints.

Increased weight of thighs and legs (and discharge of yellow mucus from the nose, with increase of thirst).

Paralytic drawing in the right lower limb.

Paralytic weakness of the feet (lower limbs); she had to lie down, suffering with nausea, tremor, anxiousness and vertigo.

Paralysis of the lower limbs.

Cramp-pain in the glutei muscles, accompanied with tension when bending the body forwards.

Three or four violent stitches in the right hip, when at rest or in motion, (quickly passing.)

Cold feeling in the right hip-joint.

Pain of the left hip, with limping.

When lying upon her right hip, she feels a pain in her left; but when lying upon the former the pain subsides.

Paralytic tension in the hip-joints when walking, as if they were sprained.

Cutting and darting tearing in the posterior muscles of the left thigh when sitting.

Cutting stitches in the external muscles of the right thigh, close above the knee, only when sitting.

Excessive weight and stitches in the thighs, when walking; also when sitting.

Drawing pain from within outwards, in a small spot of the internal side of the left thigh.

Hard pressure in the middle of the anterior surface of the right thigh.

Stitches in the centre of the thigh towards the posterior side, resembling stabs with a knife, (immediately after a meal.)

A painful vacillating throbbing in the upper and inner part of the left thigh.

Groaning and humming sensation over the right knee when sitting.

Cramp-pain in the right knee, near the patella, towards the outer side, when sitting.

Violent pains in the knee.

When moving the left lower limb, the tendon of the outer hamstring feels too short and too much contracted; this symptom is alternately felt in the tendon of the inner hamstring, but more in the outer.

Clawing ache and darting in the bend of the right knee.

Dull stitches in the bend of the left knee.

- - Tremor of the knees.

Disagreeable sensation in the joints of the lower limbs, especially the knee-joints, as if they would bend suddenly, especially when walking, and mostly when going down a height.

Darting in the bend of the knee as far as the muscles of the thigh.

Bubbling in the foot, as of drops of water.

Quick bubbling in the forepart of the left knee, when sitting, (immediately.)

Prickings below the left patella, when sitting.

Pressive stitches in the right patella, (when sitting.)

When treading upon the left foot, painful stitches dart up to the knee.

Cutting drawing in a small spot of the lower limbs extending from below upwards, first through the legs and thighs, afterwards through the small of the back as far as the shoulders.

Paralytic lassitude in both legs, when going upstairs, especially the calves.

Sensation in the legs, moving from below upwards, as of creeping, externally; internally, as of innumerable stitches.

Pain in the leg, as if it were jammed, with a dull tearing and confused commotion internally, especially in the right, relieved by letting the leg hang down.

Burning tearing along the leg through the inner side of the patella.

Tremulous weight of the legs.

Dull tearing in the legs.

Excessive pain in the legs, obliging one to extend them.

Painful feeling of weight in the right leg when laying it across the left.

Drawing weight in the legs.

Tearing pain in the tibia.

Sensation in the right leg, as in persons who grow, a sensation of stiffness joined with heaviness.

Drawing and tearing pain in the right tibia with a sensation in it, as if it would be pressed asunder.

Sharp stitches in the left calf, rising from the lower part.

Cramp in the calf when bending the leg, in the evening when in bed, going off by extending the leg.

Tearing and pressure in the middle of the inner side of the leg, uninfluenced either by motion or contact.

Pressure in the forepart of the left tibia, when standing.

Sweat of the feet without any warmth, when sitting.

Corrosive itching of the feet and dorsa of the feet.

Dull stitches in the dorsum of the left foot when sitting; external pressure does not alter them.

Tension in the right tarsal joint, when walking in the open air.

Pain as from a sprain in the tarsal bones, when walking or bending the foot inwards.

Tearing pain in the metatarsal bone of the big toe.

Cramp in the sole of the foot, in the evening when in bed, when drawing the knees up.

Burning, and searching (grinding) sensation in the soles of the feet.

Violent itching of the feet.

Tingling in the feet from below upwards.

Swelling of the feet.

Heat, especially in the feet.

Boring, grinding pain in the soles of the feet.

Stinging pain in the soles of the feet.

Pain, as from a bruise, in the ball of the heel, when treading upon it.

A kind of painless drawing or creeping from the heel to the toes around the malleoli.

Boring or tearing stitches in the tendo achillis.

Tearing in the sole of the left foot, when walking, with occasional stitches, a quarter of an hour.

Tension in the sole of the right foot, in the region of the heel, changing to a tensive pressure ; when pressing upon the parts, this pain disappears for some time.

~ Sleep:—

Deep sopor, with subsultus tendinum ; pale, cold countenance, with cold hands, and hard, small, quick pulse.

Stupefaction which obliges him to sleep, in the forenoon ; he slept quite soundly for one hour and a half ; after waking, he felt a keen appetite, a violently burning heat and dryness of the mouth, without any thirst ; afterwards, when coughing, which was a short and hacking cough, his breath smelled like human excrements.

Uneasy sleep before midnight ; the child tosses about, kicks with his feet, and utters querulous sounds while asleep

He dreams directly after having fallen asleep.

Violent thirst after long sleep.

Sleep full of dreams ; she is engaged in conversation with a great many men ; wants to go away, but cannot get off.

She dreams a good deal, but her dreams are calm, and turn about domestic affairs.

Sound sleep, without many dreams, until morning.

Night-sleep, with dreams which he was unable to recollect ; he fell asleep at an earlier hour than usual, woke up sooner, and felt somewhat refreshed by the sleep ; this, however, only lasted a few hours, after which the usual heaviness and lazy feeling of the limbs again made their appearance.

He dreams about fires ; the dream wakes him.

Frightful dreams, which one recollects very vividly.

Sopor, in the night, anxious dreams about murderers and robbers ; at one time he heard himself crying aloud, without however being able to come to his senses.

In the evening, when falling asleep, he frequently starts from his sleep ; the feet started upwards and the head forwards.

The sleep becomes intolerable from the excessive increase of the pains and frightful dreams.

He starts and wakes when on the point of falling asleep.

She wakes up in the night full of fright and fear ; she imagined something under her bed uttered a sound ; she felt a dry heat when waking up.

She started violently as with fright during her otherwise calm sleep, she imagined she had a steep fall.

He starts as with fright in his sleep, and wakes up.

Anguish prevents one from falling asleep.

Nightly sleeplessness owing to anguish, with a drawing pain in all the limbs.

Starting in a dream ; this wakes him up, his forehead and the scrobiculus cordis being covered with sweat.

He is constantly roused from his sleep by frightful dreams and convulsions.

During his sopor he opens his eyes, casts wild looks around, and falls back again into his sopor, with rattling breathing.

During the night he was tormented by dreams which fatigued the mind a good deal ; in the morning, when trying to get up, he feels quite exhausted.

When about to fall asleep, he knew not whether he was dreaming or awake.

Vivid dreams, which he was unable to recollect.

In the evening, when lying in bed, he imagines he is floating along with his couch ; ten successive evenings, after lying down, he imagined he was floating along with his bed.

Early in the morning he is unable to rouse himself from his sleep ; when waking he is very much out of humor.

Singing and loud talking while asleep.

She sleeps a good deal ; when roused from her sleep by a cough, she falls asleep again immediately after the cough ceases ; nevertheless, she feels tired and giddy in the morning.

He frequently wakes up from his sleep ; finally he is unable to fall asleep again, or find any ease, although he may ever so much change his position.

Intermittent breathing at night, both when asleep and awake ; an inspiration and expiration last half as long as is the interval to the next inspiration ; the expirations are sudden expulsions of air, and are louder than the inspirations ; the inspirations were a little longer than the expirations.

(Suffocative snoring during the inspirations, when asleep.)

Frequent waking up from sleep, at night, as if he had slept enough, (the first night.)

Unsuccessful though eager attempts at sleep.

He is unable to sleep at night; he is prevented from sleeping by his fancy, as though he had something necessary to attend to. Sleeplessness for some nights.

Continual sleepiness with tendency to stretch one's limbs, in the evening from five to nine o'clock.

(Sleeplessness with diminution of the pains, at night.)

Continued cloudiness and drowsiness.

Drowsiness and yawning, at twilight; in the morning one feels as though one had not slept enough.

Headache and great lassitude when waking from sleep.

In the morning, when waking up headache over the eyes, a feeling of weight in the head; when touching the eye then, it feels sore.

Tired and giddy early in the morning.

Drowsiness, immediately after waking.

Slumber, with a small, weak, unequal pulse.

Drowsiness full of uneasiness.

Violent drowsiness.

Frequent stretching of the limbs, and yawning in the afternoon, with lachrymation.

Frequent yawning.

Yawning, like that of intoxicated persons:

Frequent yawning, as if one had not slept enough.

Fever:—

Feverish feelings every other day.

Fever after every dose.

Evening-fever.

Violent thirst after midnight and early in the morning.

Excessive thirst for cold water.

He is tormented by a burning thirst and by heat, and desires to drink from time to time; but when offered a drink, he repels it.

After the sweat, the thirst increases and the appetite decreases.

A good deal of thirst and dryness in the mouth at night.

Thirst, frequent micturition and obscuration of vision, especially in the morning.

Great thirst, early in the morning.

Great thirst, frequent micturition, copious sweat.

She is deadly pale, cold as snow, and apparently lifeless.

Icy-cold hands, early in the morning, with obtusion of the head and whining mood.

Coldness of the whole body, with pale countenance.

Cold feet, with heat of the internal ear, in the evening.

Cold feet, with a bloated, red countenance, with congestion of blood to the head.

Coldness over the whole body, especially the feet.

Cold hands and feet, with rather profuse and cold sweat of the feet.

Coldness of the hands and feet.

An unusual feeling of coldness of the legs, greatest in the feet.

A violent thrill of chilliness in the back, pit of the stomach, or along both arms, and thence extending over the whole body.

(Chilliness after a meal.)

She feels chilly while asleep, and feels the coldness while asleep; is cold when waking.

Chilliness, especially on the arms, with goose-skin, when pulling off the clothes, accompanied by redness and heat of the ears and nose.

Chilliness and shuddering with goose-skin, even when near a warm stove.

Feverish chilliness, with painful fine stinging in the chest.

She feels a shuddering when coming in contact with a cold draft; however she feels more comfortable in the open air.

Extreme sensibility to the cold air.

Frequent yawning, followed by thrills of chilliness over the skin, in the evening.

Shuddering, over the arms and abdomen, not the head.

Slight shuddering after noon, with obscuration of vision.

Shuddering, over one arm.

Shuddering, over the abdomen.

Feverish shuddering and cold hands.

Fever, towards evening: a convulsive shuddering lifts him up in his bed; in two hours heat and general sweat come on, without thirst either during the shuddering or heat.

Short, intermittent thrills of shuddering along the back, without any subsequent heat.

Small, slow pulse.

Fever : feverish chills early in the morning, followed by slight heat.

Fever : Thrills of slight chilliness over the whole body ; four hours afterwards, feeling of heat, with heat, especially of the face.

Fever : feverish chilliness at night, shortly followed by heat of the body, frequent micturition and exhaustion of the limbs ; a similar attack occurred twice in the night following, with vertigo and thirst.

Fever : chilly shuddering through the whole body, thrills of heat in the afternoon.

- Fever : in the evening, when undressing herself, she felt some chilliness over the body, afterwards heat on the whole left side of the body.

Fever : the chilliness was succeeded by a comfortable feeling for a couple of hours, afterwards sweat of the face, hands (?) and feet (?) only, previous to the heat ; no sleep during the heat ; almost no thirst during the chilliness, and none whatsoever during the heat ; a little headache only with the sweat in the face, but no headache either during the chilly or hot stage.

Fever : putrid taste in the mouth, afterwards heat of the face and hands ; the pain increased after the heat had disappeared.

Repeated attacks of fever during the day ; the shuddering chills are followed by general heat and sweat over the whole body, without any thirst either in the chilly or hot stage.

Fever : external coldness with internal, burning heat.

Fever : alternation of chilliness and heat.

Fever : sudden alternation of chilliness and heat, with drowsiness by day, and no thirst in either stage.

Several attacks of fever in one day, the heat succeeding the chilliness in a few minutes or half an hour, without any thirst either during the cold or hot stage, and generally with obtusion of the head.

Fever : chilliness, afterwards heat in the evening when in bed, the chilliness began at the os sacrum, ran along the back and down again along the lower limbs.

Strong, quick pulse.

Large, full, slow pulse.

Very small, quick pulse.

Large, frequent pulse, increased by ten beats.

Burning skin.

Violent heat. Great heat all over the body, with delirium.

Burning heat, either external or internal.

Internal burning.

General dry heat of the extremities of the feet and hands, with absence of thirst and paleness of the face, for 12 hours.

Internal heat, burning in the region of the stomach.

Internal heat; she finds every thing she eats, so cold.

Acute fever, burning fever.

Burning heat of the body, with greatly distended veins of the skin, and rage.

Great heat, distention of the external veins, and unquenchable thirst.

Distention of the veins of the limbs; the carotids throb so violently that the lower jaw, when standing a little off from the upper, strikes against it at every pulsation, and thus a slight chattering of the teeth is produced; accompanied by warmth and a feeling of warmth over the whole body, but especially about the head.

Throbbing of the arteries in the head and in all parts of the body, early in the morning, when waking up.

At night, especially towards morning, he feels too hot in his bed, nevertheless he dares not uncover himself; the uncovered parts are painful, as if they were frozen.

Great heat of the body, more violent and frequent pulsations of the temporal arteries, with a dull feeling of the head, and subsequently profuse sweat.

Every day, after dinner, greater heat of the body, especially the head, so that the face becomes very red from time to time.

Every day, towards noon, sudden heat, and redness of the countenance, and the whole body, with great obscuration of vision and great thirst, one hour.

Sensation of heat, with actual heat over the whole body, especially however in the face, which was red and covered with sweat, with obtusion of the heat.

(Heat of the hands and feet, in the evening, but not of the arms or lower limbs.)

Slight motion (walking) excites heat of the body.

Redness and heat of the face, with great thirst.

Inflammation of the surface of the whole body.

Redness of the whole body with a quick pulse.

Heat of the whole body with violent redness of the whole skin.

Red swelling of the whole body.

The whole body is swollen, burning hot, and red.

General hot (inflammatory) and cold gangrene, (with rapid putrefaction of the body after death.)

Sudden phlogoses. Quickly passing phlogoses and asthma.

Great heat, (immediately) followed by profuse sweat.

Heat of the body with sweat.

Sweat (in a few hours.)

He sweats over the whole body when taking the least exercise, mostly in the face, down the nose.

He feels very hot, he sweats all over without any thirst.

He sweats profusely over the whole body, when walking in the open air, (in the wind,) and is attacked with colic, as though he had taken cold.

Night-sweat, which has a pungent smell.

Profuse night-sweat, which do not weaken him.

Sweat in the morning.

Cold sweat on the forehead.

Night-sweat while asleep, after midnight.

Directly after midnight he wakes up covered with sweat, (he was unable to fall asleep again;) the sweat continues during the waking hours.

No sweat during the night-sleep, but some sweat during the siesta.

Sweat on the whole body during the sleep.

Sweat over the whole body, from four o'clock in the afternoon until midnight, afterwards sleep during the sweat.

Profuse sweat with enuresis.

Profuse, long continued sweat, leaving dark spots on the linen.

Sudden, general, and as suddenly disappearing sweat.

Sweat as soon as he covers himself with his feather-bed, especially on the upper limbs.

Only those parts sweat which are covered with the feather-bed, in the evening.

At two or three o'clock in the morning, after waking up, sweat on the arms when covering them; the sweat subsides when uncovering the arms.

Intermittent sweat, early in the morning, beginning at the feet and rising to the face, which sweated especially; immediately afterwards she felt cool again.

During the feverish heat, general sweat breaks out when covering the hands with the feather-bed; but general coolness sets in again when uncovering them.

Skin;—

Redness and swelling of the affected part.

Prickling and smarting sensation in the whole skin, especially of the soles of the feet.

Tingling sensations.

Itching of the whole body, and eruption of red spots as from flea-bites.

Chest and abdomen are covered with small, red, somewhat elevated, painless spots, frequently disappearing and suddenly reappearing, with general redness of the skin.

Acute, erysipelatous fever, accompanied by inflamed tumors, which sometimes became gangrenous.

Inflamed red spots upon the skin, or scarlet-red (itching?) spots over the body, of an irregular shape.

Blood-red spots on the whole body, especially in the face, on the neck and chest.

Cutaneous eruption, resembling measles.

Dark-red, scarlet-colored spots on the whole body, with a small, quick pulse, asthma, violent cough, delirium, strengthened memory, rubbing of the nose, and dilated pupils.

Scarlet eruption, (the first days.)

Cutaneous eruption consisting of blisters, emitting a quantity of water, and obliging one to moan and to howl, owing to the intensity of the pain.

Painful sensitiveness of the skin to every contact.

Creeping itching over the whole body quickly passing from one spot to another.

Red scales in the lower part of the body, as far as the abdomen.

Blisters (which easily burst open) in the palm of the hand and in the tibia.

Sudden and unexpected lancination in the affected part, extending into the head ; when walking, at every second or third step, not when sitting.

(The places which had been affected with the lancinating pain, are extremely painful when touched.)

Boring pain in the glands.

Gnawing pain in the affected part.

The external application of *Belladonna* makes the part sensitive to the open air.

Cold, painful, long-lasting nodosities and swelling, (appears to be a secondary effect.

Tearing itching in various places, especially after lying down, in the evening when in bed ; after rubbing the parts, nothing but an increased tearing pain remains.

The ulcer is only painful at night, (from six o'clock in the evening until six in the morning,) burning, as if something would press out from the ulcer and the part were stiff and paralyzed.

The ulcer is covered with a black crust looking like inspissated blood.

Nothing but bloody ichor oozes out from the ulcer.

The ulcer becomes painful, almost burning, when touched.

Violent itching in the ulcer.

Cutting pain in the ulcer, when at rest, and tearing pain when moving the part.

Sore pain in the parts close around the ulcer.

(Soreness in the bend of the joints.)

Sudden, excessive, cramp-pain in one side of the chest, in one side of the abdomen, in a loin, or one elbow, especially when asleep, the prover being obliged to bend the affected part inwards and to flex it.

(Drawing pain in the feet extending up to the scapulæ, and thence to the fingers, finally to the teeth, which become dull and vacillating from that pain.)

(Drawing pain in all the limbs.)

Itching prickings, like flea-bites, in various parts of the evening when in bed.

All the symptoms are worse in the afternoon at three or four o'clock, milder in the morning.

General Symptoms; Spasm, Paralysis, Fits:—

Very painful cramp in the left arm, and in the back, extending as far as the lower limbs, in the evening.

In the evening she attempted to extend herself, but she was unable to do so from pain.

When the pain had reached the highest degree, it generally disappeared suddenly, and was momentarily replaced by a pain in some other place.

Violent convulsive laughter.

Convulsive movement of the limbs.

Subsultus tendinum. Twitchings of the limbs.

The most violent spasms after a slight vexation; they impelled him to run up the walls.

Spasms of the limbs with hiccough.

Lassitude and anxiousness accompany the spasms of the limbs.

Convulsive, momentary extension of the limbs, when waking from sleep.

Repeated convulsions and horrible spasms, especially of the flexor muscles.

Violent convulsions and loud delirium.

Epileptic convulsions. Excessive spasms, resembling epilepsy.

Convulsions, distortions of the muscles.

In the intervals between the spasms, he utters the most violent cries, as if he were suffering great pains.

The head and the rest of the body are drawn backwards to the left side, so that he was unable to walk.

Insensible railing, with convulsions of the hand and feet.

Alternate strange contortions of the limbs and total immobility.

Loss of sensation, stiffness of the lower limbs, extreme distention of all the blood-vessels in the skin, with extremely red, bloated countenance, full and quick pulse, and excessive sweat.

Frequent stiffness and immobility of the limbs; for instance, he was not able to stir his left foot.

Stiffness of all the limbs, resembling a feeling of weariness.

Stiffness of the whole body.

Spasmodic extension of the limbs, with distortion of the eyes.

Early in the morning the limbs feel weary and uneasy from pain; she would like to alter the position of every limb constantly.

Restlessness of the head and hands.

Restlessness of the body ; he was obliged to move the whole body constantly to and fro, especially the hands and feet ; he is unable to remain long in any one situation ; at times he is lying, or sitting, or standing, with constant restlessness in any one position.

Trembling, with convulsive concussions of the body.

Tremor of all the limbs ; inability to walk ; distended veins of the whole body, and disagreeable sensation of irritation in the throat, for several days.

Tremor and lassitude of the limbs.

In the evening he feels so tired that he is scarcely able to walk.

Laziness of all the limbs, and want of disposition to work.

Heaviness of the hands and feet.

Lassitude every day, and drowsiness in the afternoon.

Failing of strength and shortness of breath, especially in the evening.

General weakness. Weakness, unsteady gait, the knees feel as if they would break down ; he is unable to walk.

Frequently recurring, short attacks of great weakness ; she feels as if she were drawn down by a weight, as if she would sink down.

Paralytic weakness of all the muscles of the upper and lower limbs.

Paralytic weakness of all the muscles, especially of the feet.

Paralytic feeling, at times of one, at times of another part.

Paralysis of the right arm and right lower limb.

The left side, especially the arm and lower limbs, are entirely paralyzed.

Fainting fits. Apoplectic condition.

He was four days without tasting any nourishment, and lay motionless like a dead person.

Lethargic, apoplectic condition ; day and night he lay perfectly motionless ; when pinched he opened his eyes, without however uttering a sound.

Peculiarities :—

Belladonna is particularly suitable for complaints of plethoric individuals disposed to phlegmonous inflammation.

Or for complaints of lymphatic, scrofulous individuals liable to glandular swellings.

And for diseases of children, females, and young people of mild temper, blue eyes, blond hair, delicate skin, and red complexion.

Some of the Belladonna pains disappear suddenly when they have reached the highest degree of violence, or they disappear in one place while other and different pains make their appearance in other parts of the body.

Sudden and violent cramp-pains, which are generally experienced during sleep, obliging one to draw in the affected part, especially the side of the chest or abdomen, loins, elbows, etc.

Aggravations of the pains at night or in the afternoon at three or four o'clock.

The least contact and sometimes the least movement aggravates the pain.

Some of the Belladonna pains are aggravated or appear after sleep.

[Remission of complaints after midnight and in forenoon.

All complaints worse in afternoon.

Worse in cold weather and when growing cold.

Worse during full moon.

Worse from heat of the sun.

Worse from light, especially candle-light.

Worse in spring.

Worse in the open air (especially dry weather), better in-doors (especially wet weather).—Gross's *Comp. Mat. Med.* by Hering].

APIS-MELLIFICA.*

APIS. The common honey-bee.

We are principally indebted for the proving of this very admirable remedy, to the indefatigable zeal and perseverance of our colleague, Dr. F. Humphreys, of Utica. Having been experimented upon by him, he proposed it for trial to the Central Homœopathic Society of New-York, upon which a committee was appointed to prove the drug and report upon it. Drs. Bishop and Munger were joined to Dr. Humphreys, and the result was a report to the Central society which is incorporated in the following article.

1. Description and Preparation.

This useful insect is too well known and too widely diffused to need a particular description. It and its products, honey and wax, have apparently been familiar to man from the very earliest ages.

The preparation with which the following provings were made was procured by placing the living working bees, taken in the month of August, in a large open-mouthed vial, and pouring alcohol over them when in a state of excitement. The tincture is suffered to stand awhile, and is then decanted clear for use.

Dr. Hering suggests that a better mode of procuring the pure virus of the insect, would be to seize the bee by the head and with a little forceps extract the sting and poison-bag together, which may then be triturated with sugar of milk.

A preparation has also been obtained by placing the living bees in a closed vessel until they were suffocated and dried, and then pulverising them with milk-sugar.

2. Prior Knowledge of its effects.

That the bee possessed a powerful weapon of offence in its sting, and that the effects arising from its delicate puncture were sometimes formidable, has always been known, but from the want of a true therapeutic guide, this knowledge could never be made serviceable in the cure of the sick.

1. DESERET relates that a workman fifty years old was stung by a bee over the right eyelid; he immediately fell to the ground and

* The proving of Apis is, as a matter of course, not to be found in Hempel's Edition of Jahr's Symptomen-Codex, having been first published in the North American Journal of Homœopathy after the publication of that work. In Hull's Jahr by Snelling only an abstract of the provings is given. For the benefit of our readers, therefore, we have here reproduced in full, from Metcalfe's Homœopathic Provings, the entire article devoted to this important drug.—Ed. *Cal. J. Med.*

in a few moments died. His face was inflamed, and after death there was a copious discharge of blood from the nose.

2. ZACUTUS saw, after a sting in the eyebrow, an inflammation, violent pain and gangrene of the part follow.

3. In a Munich Journal, a case is related where a man was overtaken by a swarm of bees and so stung in the hands and face, that he soon died from the pain, inflammation and swelling of the affected parts.

4. "The *poison-apparatus* is found in the females and neuters only. It consists of two thin convoluted secreting organs, opening into a pyriform receptacle, from which a small duct passes to a sting which consists of two portions, placed side by side, barbed at the extremity and contained in a sheath. The poison is said to be hot and acrid to the taste. The consequences produced by the sting of a bee are pain, redness, swelling and hardness of the part; and might prove fatal if a swarm were to attack an individual." (Pereira).

5. MR. LAWRENCE mentions the case of a French gentleman, who was so severely stung by bees about the upper part of the chest that he died in fifteen minutes, with all the symptoms of mortal collapse usually produced by the bite of venomous serpents. (Med. Gaz. 5, 582.)

6. DR. MARCY (*Theory and Practice*, 547) states that the first trituration of the honey-bee has proved successful in his hands in *ascites* and *hydrothorax*. "In large doses, it causes a sense of fulness, constriction, or of suffocation in the thorax; difficult and anxious respiration; pain and tenderness of the abdomen, increased by pressure or contact, symptoms worse in the horizontal posture; great secretion of urine, which is pale or of a straw color, and deposits a reddish or brick-colored sediment; frequent desire to urinate, and strangury." After citing a case of *ascites*, which will be found under the clinical remarks, he adds: "We have witnessed the effects of this remedy in two other cases of *ascites*, in one case of protracted general dropsy, and in one case of *hydrothorax*, and with the same favorable results. The powder of dried honey-bees has long been used as a remedy in dropsies by the aborigines of our country."

7. A lady, aged 65, had been in the habit of attending and taking care of honey-bees for forty-five years, had been frequently stung, and always with but slight inconvenience. In September, 1849, her attention was directed to some apples which were drying, among which some bees were present, when one of them stung her on the chin. She hurried into the house, remarking that a bee

had just stung her, and that she "felt strangely," which were her last words. In less than fifteen minutes all signs of life had disappeared.—*Amer. Magazine.*

3. *Digest of the Symptoms.*

AUTHORITIES. 1. DR. BARKER. 2. DR. BIGELOW. 3. DR. BISHOP. 4. F. D. 5. DR. GREENE. 6. DR. HAYS. 7. DR. HUMPHREYS. 8. DR. KELLOGG. 9. DR. MUNGER. 10. DR. ROBINSON. 11. DR. WELLS.

The figures at the end of the symptoms refer to the authority ; the ordinary type indicates the pathogenetic effects ; the symptoms which have disappeared under the use of the drug are distinguished by a cypher (°), and those which have been confirmed by cures are preceded by an asterisk (*).

Mind :—

- . Irritable disposition the eighth day ; nothing appeared to satisfy him, all out of place (7.)
- . Unfitness for mental exertion (7, 11).
- . Dread of death, or sensation as if he should not be able to breathe again (2).

Sensorium :—

- . Confused vertigo for several days, at times very violent, worse when sitting than when walking, and extreme when lying down and on closing the eyes, from several doses of the 30th (7).
- 5. Head is dull and slightly confused (7).
- . °Crazy, wild, blind staggers in horses (old observation) (7).
- . Furious mania ? (7).

Head :—

- . Weight and fulness in the upper part of the head (2).
- . Heaviness and pressure in the head, continued three or four days, commenced one hour after taking one drop of the 3d att. (11).
- 10. °Great sensation of rush of blood to the head (3).
- . *Headache over the eyes*, which is dull, heavy, tensive, with pain through the orbits, lasting but a short time ; this headache has occurred in three provings ().
- . °Semilateral headache over and in one eye and in the whole left side of the head, with redness and puffy swelling of the cheek, nausea and vomiting (6th dil.) (4).
- . °Headache on the right side, involving the eye and side of the head ; must keep the eye closed ; pain very severe, coming on at 10 or 11 A. M., and continuing until night ; cured by 6th dil. (7).

- . **Chronic headache in nervous subjects ; violent pain in the forehead and temples, at times involving the eyes, attended by vertigo, nausea and vomiting ; must hold the head and eye down (7).*
- 15. Pressing pain in the sinciput with vertigo, immediately (7).
 - . **Pain in the sinciput and confusion of the head (7).*
 - . **Disagreeable headache in the sinciput (7).*
 - . Sensation of dulness across the forehead just over the eyes, third day (8).
 - . **Violent headache, mostly confined to the forehead, with fever, second day (2).*
- 20. **Burning and throbbing in the head aggravated by motion and stooping, temporarily relieved by pressing the head firmly with the hands, with occasional sweat for some hours (2).*
 - . Dull pressive headache in the upper part of the forehead as if it would burst, extending to the temples (11).
 - . **Violent pressive pains in the forehead and temples for several days (7).*
 - . **Dull, heavy headache on rising, continued till 3 o'clock P. M., second day (11).*
 - . Oppressive headache when in a warm room and reading (2).
- 25. Boring pains in the temples, continued for several days at intervals, lasting only a few minutes at a time, commencing the third day, after taking 3 drops of the third att. every morning (11).
 - . **Slight aching in the left temple (7).*
 - . **Violent sharp pain in the left temple (7).*
 - . Violent aching pains through the temples, and organs of causality, comparison, mirthfulness, and ideality (2).
 - . Boring pains in the temples, every morning on waking, for three mornings (11).
- 30. Dull heavy pain in the right temple on waking in the morning, soon changing to the left, first day (11).
 - . Throbbing, painful sensation in the temples (3).
 - . **Sharp pricking pains in the temples and across the forehead (3).*
 - . Dull ache in the occiput (6).
 - . Aching in the occiput increased by shaking the head (7).
- 35. Slight pressure in the occiput (7).
 - . Sharp tensive pain from the neck up back of the left ear, extending forward over the left side of the head, first day (7).
 - . Headache with fulness and heaviness in the occiput (7.)
 - . Falling out of the hair all through the proving.

Eyes:—

- . Transient biting itching in the right, and sometimes left eye-brow (7).
- 40. **Burning stinging* in the right eye, commencing with a dull heaviness and causing flow of water ; twice repeated (7).
- . **Stinging itching in the eye, eyelids and around the eyes*, on the left side, and more at the internal canthus (7).
- . Itching of the right eyelid, continuing all day at intervals. (This symptom repeated in several provings) (7).
- . **Itching and prickling of the lids of the right eye*, 1st day (11).
- . Violent stinging in the lower right eyelid, in the morning (7).
- 45. Burning stinging and sensation of swelling around the left eye, and in the superciliary ridge (7).
- . **Pain around the orbits of the eye* (7).
- . Pricking sensation as if from a foreign body (3).
- . Aching pressure in the orbit of the left eye, mostly the lower portion, continuing for several hours ; twice repeated (7).
- . **Slight agglutination of the eyes at night* ; had to pick them open in the morning (7, 11, 6).
- 50. Sensation as if there was a mass of mucus in the left eye, continuing all day (7).
- . Flow of mucus and lachrymation of the right eye at night in bed (7).
- . °*Soreness, redness of the eyes and eyelids, secretion of mucus and agglutination of the lids, attended with nettlerash over the surface* (7).
- . °*STYES* (7 et al).
- . °*Soreness of the margin of the lids and canthus* (7).
- 55. °*Erysipelatous inflammation of the eyelids* (7).
- . A sensation of whirling around in the sight, with difficulty of seeing at the same time, lasting only for a moment (2).
- . **Dull, heavy feeling, inclination to close the eyes, desire to rub them forcibly, making pressure with the fingers when closed for some time* (3).
- . **Weak eyes* ; for several days the light is painful (7).
- . The eyes are weak, and an indisposition is felt to use them ; they are painful and easily fatigued when employed ; only regain their strength and vigor the 10th or 12th day ; this was experienced by one who had never had weakness of sight before or since (7).
- 60. Tremulous twitching in the left eye, more at night, and continuing for several days (7).

- . °Inflammation of the eyes and lids attended with burning and biting pains and itching ; many cases (11).
 - . °Edematous swelling of the eyelids (7).
 - . °*Smoky opacity of the cornea*, occasioning almost entire loss of sight ; several cases (7).
 - . °Opacity of the cornea with congestion of the sclerotica, obscuration of sight of several months' duration (11).
65. °Inflammation of the cornea (7).

Ears :—

- . Burning of the superior portion of the left ear (7).

Nose :—

- . Violent sneezing immediately (7).
- . Frequent sneezing for many days, eleventh day, in two provings (7).

Face :—

- . Sore elevations like the sting of insects, very tender to the touch, at the external corner of the eyebrow (7).
70. Burning stinging, as of fire, on the chin and malar bones (7).
- . Burning stinging at the left superciliary ridge (7).
 - . Swelling of the lips, and sensation of swelling for several days, followed by a fine eruption around the lips, and dryness and peeling off of the lower one (7).
 - . Roughness and feeling of tension in the lips, especially the upper one (7).
 - . Dark streak along the epithelium of the lips, they are rough, chapped and peel off (7).
75. Prickling in the lips, and sensation as if they had received a severe contusion, with sensation of swelling ; in a few hours (7).
- . °Burning, biting, stinging heat, assuming a purplish hue, in about 24 hours (3).
 - . °Erysipelas of the entire face, with light redness, swelling, heat, burning fever, coated tongue and thirst ; in a girl of 9 years, cured by the 6th dil, every 4 hours (7).
 - . °Erysipelas of one entire side of the face and nose, swelling under the eye, resembling that from a sting, cured by the third att. in water, rapidly and permanently (5).

Teeth :—

- . Jumping pain in the superior molars of the left side (6).

Mouth and Throat :—

80. Increased feeling of contraction in the throat, rendering deglutition difficult, at 8 hours (7).

- . Contraction and erosion in the throat in the morning (7).
- . Extreme sensation of rawness and scalding all around the margin of the tongue, as if it had been scalded, and slight pimples on the edge from taking the tincture, at 4 hours (7).
- . *Rawness, burning and blisters along the edge of the tongue, which are very painful, accompanied with stinging, at 8 hours, from the tincture (7).
- . Scalding of the mouth and throat for two days (7).
- 85. Stinging itching deep in the throat at the lower part of the neck, accompanied with a sensation of constriction (7).
- . Great accumulation of viscid mucus deep in the throat in the morning, which requires repeated hawking, eleventh day (7).
- . Dryness and heat in the throat, first day (11).
- . Dryness in the mouth and throat, the tongue feels as if burnt, second day (11).
- . Prickling heat on the tongue, 1st day (11).
- 90. Sensation of dryness in the mouth and throat, 2d day (11).
- . Copious accumulation of soapy saliva in the mouth and throat, in the morning, second day (11).
- . °Burning stinging sensation in the mouth and throat (3).
- . *Dryness of the tongue, red, fiery appearance of the buccal cavity, with painful tenderness (3).
- . An aching pressure as if from a hard body, back in the upper part of the throat and fauces, continuing for some hours, at half an hour. (Occurred in two provings) (7).
- 95. °Very appropriate in various kinds of angina, with redness, swelling, and stinging pains (7).
- . *Glossitis.

Appetite and Stomach:—

- . Violent eructations (6).
- . Eructations tasting like the yolk of eggs (6).
- . Nausea, apparently from the throat (6).
- 100. Nausea and inclination to vomit at night, and disagreeable rumbling in the abdomen as if a diarrhoea would come on (7).
- . Prickling pain in the stomach, as from needles (6).
- . Sensation of heat and burning in the stomach 1st day (11).
- . °Bilious vomiting, with a single dose in 15 to 30 minutes, 4 cases (3).

Abdomen:—

- . Rumbling in the abdomen, as if diarrhoea would ensue (6).
- 105. Sore feeling in the abdomen in the morning (6).

- . Aching and pressing pain in the hypogastrium, with bearing down in the uterus, as if the menses would come on, in two persons (7).
- . Sickly feeling in the abdomen which disposes a person to continue in a quiet sitting posture (6).
- . Dull pain in the bowels (6).
- . Soreness of the bowels felt when sneezing or pressing upon them (6).
- 110. Fulness and evident enlargement of the abdomen, from many and large doses, in a female (7).
- . *Fulness and sensation of bloating in the abdomen as if she were puffed up* (7).
- . °Ascites following enteritis; abdomen distended with serum; countenance sunken, pale, sickly; urine scanty, high coloured; pulse quick, wiry; deficient appetite (5).
- . Has proved curative in several cases of ascites (7).
- . °Enlargement of the abdomen, with swelling of the feet and scanty urine, in a lady of fifty (7).

Anus and Stool:—

- 115. Sensation of stuffing in the anus (6).
- . Throbbing in the rectum (6).
- . Heat in the anus (6).
- . Loose lumpy stool (6).
- . *Loose stool in the morning (7).
- 120. Loose, urgent stool in the morning (6, 7).
- . Bowels confined from the 8th to the 12th day (7).
- . Stool soft and pappy, mixed with serum, as though soft faeces had been beaten in water but not dissolved; the colour that of an orange (8).
- . Loose stools eight days in succession (11).
- . Several loose stools daily (7).
- 125. Several loose yellow stools, with extreme weakness and prostration; stools coming on at every moment of the body as though the anus were continually open; in a lady of 40 affected with chronic ascites, from the 6th dil. (7).
- . Two loose stools daily for five days (11).
- . °Painful diarrhoea (3).
- . Yellow, watery diarrhoea, griping, 12 movements in as many hours (3).
- . *Frequent yellow, watery evacuations, from a single dose (3); several other similar cases.
- 130. Haemorrhoidal affection with constipation, small tumors upon

the verge of the anus ; biting, boring, stinging pain, indescribable, insupportable, with extreme nervousness and irritability ; pain relieved in 4 hours, cured in 24 hours (3).

- . °Involuntary dark bloody oozing from the rectum, with swelling of anus (3).
- . °Hæmorrhoidal tumors attended with soreness and burning, stinging pains (3, 8, 11, et al).
- . Sensation in the rectum resembling an electric shock, slightly painful, succeeded by urging to stool (6).
- . Stool natural, preceded by emission of flatulence and a small quantity of almost colorless water containing lumps or fragments of jelly-like mucus, streaked with blood (6).

Urinary and Male Genital Organs :—

135. Repeated urination every few minutes, continuing through the entire day, in a person never subject to such attacks. The medicine, 1 drop, 2d, was taken at night, the symptoms appeared the day following (7).
- . Frequent and excessively profuse discharge of natural urine through the day and night in a dropsical and pregnant subject, from 3 doses of the 30th (7).
- . Frequent and copious discharge of urine (7).
- . Somewhat frequent desire to urinate, attended with uneasiness in the spermatic cord, fifth day (8).
- . More frequent inclination to urinate, attended with some burning before and after emission, second day (11).
140. Urine high colored with more frequent emission, small in quantity third day (11).
- . Burning in the urethra before and after urination, third day (11).
- . A pustule sore as a boil, surrounded by a red areola, and matured in the centre, arises in the hair of the pubes, remaining sore and painful some day (7).
- . °Urine scanty, with burning, smarting pain ; severe cases (3).
- . Stitch-like pain in the urethra (6).
145. Frequent desire to urinate, attended with burning in the urethra with uneasiness in the spermatic cord, sixth day, from large doses (8).

Female Genital Organs :—

- . *Bearing down pains and sensation as if the menses would come on, in many cases (7).*
- . *Bearing down pains as in the early stages of parturition, in several cases (3).*

- . Bearing down pains in the uterus as if the menses would come on, with aching and pressing in the hypogastrium (7, 11).
- . Metrorrhagia at the second month with profuse flow of blood, heaviness of the abdomen, faintness, great uneasiness, restlessness and yawning (7).
- 150. Hæmorrhage from the uterus, occurring in a lady who was always regular and healthy, occurring one week after the cessation of the usual menstrual period, and three days after taking the medicine (7).
- . *Miscarriage at the second month* ; from drop doses of the second dilution (7).
- . *Miscarriage at the third month* (7).
- . *Miscarriage at the fourth month* in a healthy young married female during an attack of mild fever ; on giving *Apis* 6, abortion came on, attended with profuse flooding (3).
- . Should only be given to pregnant females with the utmost caution (7).
- 155. Amenorrhœa in young girls ; many cases (7 et al.).
- . *Suppressed menstruation, many cases (7 et al.).
- . *Great increase of pain and tenderness in the ovarian region in two cases, one of large induration, the other in a supposed incipient stage of development (3).
- . *Has proved curative in several cases of enlarged ovaria and also in ovaritis (7, 11).
- . Ovarian dropsy ? (7).

Larynx and Cough :—

- 160. Hoarseness and rough voice through the day and night, second day (7, 6).

Chest :—

- . Pressure in the chest, soon (7).
- . Sharp pains in the chest at night (7).
- . Stitches through the chest and back at night.
- . *Stitches in the left side of the chest (6).
- 165. Several stitch-like pains just below the heart (6).
- . Hurried and difficult respiration with fever and headache, second day (2).
- . Pain near the heart, which almost arrested the breathing at night, continuing at intervals for some days (11).
- . Sensation as though he should not be able to breathe again (11).
- . Short rapid breathing at night (2).
- 170. Sensation of warmth or burning in the chest, first day (11).

- . Pains as of a bruise, and sensation of weight in the chest for several days (7, 3.)
- . Sensation of fulness, tension and pressure in the chest, first day (11).
- . Dull aching pains in the left side of the chest near the middle of the sternum, several times during the day, with sensation of fulness in the chest, with short breath first day (11).
- . Sensation of burning heat in the chest and stomach early in the morning, second day (11).
- 175. Sensation of soreness, lame, bruised feeling, as if from recent injury from being jammed, bruised or beaten; confirmed in many provers (3).
- . *Sensation of melting heat in the region of the diaphragm, as if from running violently (3 et al.).
- . Slight oppression of the chest, with frequent desire to draw a deep inspiration (6).
- . Slight pain in the left side of the chest under the short ribs (6).
- . *Has proved curative in hydrothorax, in several cases (7, 11).

Back and Neck :—

- 180. Rheumatic stitches in the muscles of the right side of the neck, worse when moving the head in that direction, came on when rising in the morning, very painful; not so much noticed when moving the head in any other direction, second day (7).
- . Tension in the right side of the neck, beneath and back of the ear, soon (7).
- . Sudden flush of heat over the back, as though sweat would break out, accompanied by a pain at the left ileo-sacral junction (3).
- . Dull pressure under the scapula, with sore feeling on moving the parts (6).
- . Slight sensation of stiffness in the nape of the neck and small of the back (6).

Superior Extremities :—

- 185. Aching in the right shoulder and upper portion of the arm, soon (7).
- . *Erysipelas of the left arm and wrist, with redness, swelling, heat, and tumefaction of the part; cured with 6th dil. (7).
- . Burning as of fire in small circumscribed spots on the hands, continuing for some minutes, second day (7).
- . Fiery burning at the points of the finger (7).
- . Tingling of the fingers of the left hand, soon (7).

190. Darting pains in the left elbow for an instant, third day (8).

. Great increase and intensity of the odor from the axillary glands, fourth day (8).

. Dull pains apparently in the bones of the arms and fingers (6).

Inferior Extremities:—

. Fine burning stinging on the knee (7).

. Darting transient pain in the external malleolus of the left ankle for four days (8).

195. Dull pains as if in the bones of the lower extremities (6).

. Sore feeling of the flesh of the lower extremities, disappearing on walking, returning again while sitting (6).

. Burning of the toes and redness like erysipelas and heat of a circumscribed patch on the foot, while the remainder of the feet are cold; continuing half an hour (7).

. At night, on removing the boots and socks, the feet were found swelled full, with a sensation of heaviness and rigidity, the upper part of the feet felt bungling and itched, and were of a bright red color.

. The soles of the feet and balls of the toes had a feeling of painful fulness, and in walking gave the sensation as if cushioned; sixth day, as from many large doses (8).

. Burning of the feet, first day (11).

200. *Edematous swelling of the extremities (7).

Skin:—

. *Prickling all over the body, most on the back and palms of the hands, the face, forehead, and under the eyes, mostly in circumscribed points, immediately on taking the drug (6, 7 et al.)

. *Eruption resembling nettle-rash came out all over the body of a man, soon after being stung (7).

. °Nettle-rash in a lying-in woman (7).

. °Large hard elevations like mosquito bites, upon the back and legs of a child, accompanied with stinging, itching and burning (7).

205. *Blotches on the body and back of the hands, attended with stinging like nettles, second day (11).

. Portions of the surface as large as a dollar swell up without discoloration, and become excessively sore and tender to the touch; 1st att. and tinct. (7).

. Itching pricking in the skin on different parts of the body, more on the lower extremities, and continued through the day, 1st day (11).

- . °Eruptions upon the whole surface of the body somewhat resembling measles, with great heat and purplish circumscribed hue upon the cheeks (3).
- . Eruption like nettle-rash over the whole body, second day after taking the 30th att., attended with burning and itching (11).
- 210. °Retrocession of eruption in scarlatina, with violent fever, extreme heat, injected eyes, congestion to the head, and violent delirium continuing for many hours; *acon.*, *bell.*, *bry.* and other remedies did no good; *apis* every three hours brought out the rash, relieved the congestion and delirium, and cured the case (10).
- . °A ringworm on the neck of a girl aged 12, inflamed and excoriated by the clothing, with one dose 30th att. (11).
- . *Sensation of burning heat and stinging in various portions of the surface of the body, at the same time (3).
- . The entire surface becomes exceedingly tender to the touch; every hair is painful on contact, from 6th dil. (7).
- . °Hard, livid purplish tumors, or small elevations upon the forehead, face, and lower limbs (3).
- 215. **Furuncles*, and LARGE SWELLINGS of every description, or local inflammations attended with them, and accompanied with stinging pains (7 et mult. al.).
- . *NETTLE-RASH in numerous instances (7 et mult. al.).
- . *(Edematous swelling of the extremities (7 et al.).
- . °Puffy swelling of the face, hands, forehead, temples, about the eyes, neck and upper arms, with inability to swallow food, nasty taste in mouth, fever, thirst; can drink water constantly; commenced with a violent shaking chill: cured with *apis* 30, then 6, every three or four hours (7).
- . °Post-scarlatinal dropsy, several cases after *ars.*, *bell.*, *dig.* and *acon.* had failed (9).
- 220. *Anasarca* and *ascites* after scarlatina (7 et al.).

Sleep:—

- . *Fidgetty restlessness in the latter part of the night (7).
- . Fidgetty restlessness the entire night with inability to sleep (7).
- . Night sleep is full of dreams (7); *this symptom repeated in every proving.*
- . Night sleep is yet full of dreams, mostly of travelling, eleventh day (7).
- . Disagreeable dreams about fiends (11).
- 225. Frequent waking, first night, and dreams with vexatious cares

about various kinds of business (11).

- . Sensation as of movement from place to place, mostly travelling by railroad (11).

Fever :—

- . Pulse 95, full and strong (2).
- . Pulse increased 20 in a minute, full and strong, second proving (2).
- . Sweat breaks out occasionally (2).
- 230. Sweating and dryness of the skin, alternately (2).
- . Occasional feeling of chilliness (2).
- . Inclination to yawn (2).
- . Slight chill soon passing off, followed by fever at night (2).
- . Pulse accelerated, first day (11).
- 235. Heat at night with agitation, first night (11).
- . Pulse increased from 65 to 77, first day (11).
- . General feeling of heat, worse in the chest and stomach, first day (11).

Generalities.

- . General feeling of lassitude, second day (11).
- . General feeling of lassitude with trembling (11).
- 240. Sudden prostration of the vital force, severe vomiting, profuse diarrhœa, cold extremities, paleness of face, severe griping pains in the abdomen, pulse feeble, scarcely discernible at the wrist ; no redness or pain in the part stung. [From a sting on the eyebrow.] *Apis-mel.*, 3, 5 grs., and not repeated ; reaction came on in 10 to 15 minutes ; improvement continued ; some redness of the part stung appeared on the abatement of the general symptoms (3).
- . *Bruised sensation* all over him, sides, hips, back, everywhere, restlessness the whole night and loose urgent stool ; in the morning from some pellets of the 6th dil. taken over night for a styne : this train of symptoms repeated 2 or 3 times from similar doses (7).

4 Clinical Remarks.

CASE 1. The following case of involuntary proving of the *Apis* is reported by Dr. BISHOP.

Mrs. R., æt. 40, unmarried. Large Ovarian Tumors. Left tumor pressing upon the rectum, interfering with defecation—should think them four inches in diameter, extremely hard to the touch per vaginam and externally—of three years' standing, having been suddenly developed by a powerful emmenagogue. General health not good ; subject to nervous headache. At the time she came under my care, July 13th, 1850, she complained much of sharp, lancinating pains in the ovarian tumors ; urine scanty ; bowels constipated ; but no headache

or fever. Failing to relieve the lancinating pains in the tumors as I had done before with *Lachesis*, followed by *Platina*, and not succeeding with any other remedy to my liking, I left 3 drops of *Apis-mel.* 2; also the same quantity of the first dilution, directing her to take the first dilution if she received no relief from the second, but if any aggravation occurred to stop the medicine immediately. The symptoms which I will now detail and which I consider pathogenetic, began to be developed before she had taken of the second. But as she had always been notoriously faithful in taking 'allopathic remedies, come what would, and as my next visit was deferred nearly two days beyond the time I intended, she had taken all the medicine left her.

Symptoms. **HEAD.**—General headache, very severe, with great sensation of pressure or rush of blood to the head. Throbbing, painful burning sensation in the temples.

EYES.—Smarting burning sensation, great redness of conjunctiva, very sensitive to the light.

FACE.—The patient seemed at a loss for language to express the peculiar burning and heat in her face experienced during the first 24 hours of its continuance; a somewhat livid and purplish appearance came on upon the abatement of the heat and burning.

CHEST.—Nothing of importance developed in the air passages, but some portion of the respiratory muscles, including the diaphragm and mediastinum, indicated a specific impression from the drug. She felt a severe burning pain under the short ribs on both sides, most severe on the left and of longer duration, continuing in the left side more than two weeks, and so severe as to deprive her of sleep nearly the whole time.

I will endeavour to describe the kind of heat and burning which, according to my own experience and the testimony of others, may be regarded as a specific and pathogenetic symptom of the *Apis-mellifica*,

1. On the surface like the sting of bees, or rather the burning heat which follows the introduction of the virus. 2. Upon the serous membranes and muscular tissues, especially in the region of the diaphragm, the pathogenesis of *Apis-mel.* is best described by the peculiar sensation of heat or melting, if I may be allowed the term; a sensation sometimes experienced after running violently, so that one is obliged to sit down exhausted, and in common parlance, feeling as if his vitals were literally melting. 3. Somewhat resembling the effects of *arsenicum*, so far as the mere sensation of heat is concerned, but with actual heat, in addition, and a livid purplish hue.

Stool.—Greenish, yellowish, slimy diarrhoea, perfectly painless, coming on in about 24 hours after taking the first dose; she had 12 movements during the day; never subject to looseness of the bowels, and never had anything in her life resembling it. The diarrhoea subsided after one day's continuance.

URINE.—Diminished in quantity one half, although scanty before taking the medicine; the scalding burning sensation was very severe while urinating.

FEVER.—The development of heat and fever, which I regarded as pathogenetic in this case, continued to increase for about 36 hours, and was then followed by a severe shaking chill, occurring about 5 o'clock in the morning; she felt very cold, but was not actually so to the touch of another person.

GENERAL REMARKS.—The pain in the ovarian tumors was much diminished in a day or two, and at the end of two weeks she had not much disturbance from

that source. I was wholly unable to control the heat and burning pain in the left side, though I made an effort to do so for about ten days, at which time she took, on her own responsibility, a large dose of epsom salts and soon after was bled, but with no benefit or abatement of the symptoms. After waiting rather patiently against time for improvement, she so far recovered as to visit relations at some distance, which, I must confess, somewhat relieved me, to say the least, from positive proximity to the subject of experiment with *Apis-mellifica*.

The following examples of the clinical use of the *Apis* have been furnished from various sources.

CASE 2. *Ascites*; reported by Dr. BARKER.

A gentleman of 70, feeble constitution, lymphatic temperament, light skin, blue eyes, was seized, after an attack of influenza, with dropsical swelling of the chest, abdomen, feet and legs. He was unable to lie down without panting, and was always worse towards morning; urine reduced to a half pint per day. *Apis* 3 (dec. dil.); after three days the urine began to flow freely; between 3 and 9 A. M., two quarts would frequently be discharged, and under the use of this remedy, subsequently alternated with *Ars.* 60, the patient entirely recovered.

CASE 3. *Ascites*; reported by Dr. GREENE.

W. C., æt. 3½ years. Abdomen very much distended with serum, countenance sunken, pale, sickly, pulse quick, rather wiry, appetite poor, urine scanty and high colored. He had an attack of enteritis in September last, from which he rapidly recovered. I supposed that to be the cause of the present difficulty. I administered in their turn *ars.*, *dig.*, *dulc.*, *merc.*, *china* and *sulph.*, but with no decided effect. The effusion still continued to increase up to Feb. 10th, at which time there was much difficulty of breathing except in nearly an erect position. At this time I performed the operation of paracentesis, drawing off some 7 or 8 lbs. of a dark sizy, muddy looking serum. I then gave one drop *apis* three times a day, for five or six days, with two doses *merc. sol.*, intermediately, at which time the urine became more free, although there had been some more sensation of fluid in the abdomen during that time.

Finding the quantity of urine increased and the general symptoms better, I gave 4 or 5 pellets of *apis*, 3 three times a day, and continued that treatment five or six days, his health still improving. I then reduced it to twice a day, which he has continued to the present time; there are now no dropsical symptoms and the boy is lively, appetite good, bowels regular and every way in a promising condition for perfect health. Repeated med. and only every third night.

CASE 4. *Ascites*; reported by Dr. HUMPHREYS.

An elderly lady of light complexion, lymphatic temperament, had long suffered from dropsical swelling of the abdomen and extremities. The ankles and feet were quite cedematous and clumsy, the urine scanty and high colored, and she suffered from general depression and weariness. She had used several remedies to no purpose. *Apis-mel.* 30, rendered prompt and decided service, and has since always relieved her when from extra fatigue or other cause the dropsy has manifested itself.

CASE 5. *Ascites*; reported by Dr. MARCY.

The following case occurred in the practice of Dr. TART of Hartford, Conn.: The patient, a boy of 12, was attacked in July, 1840, with dysentery. After several weeks of medication under an allopathic physician, the acute symptoms

Feb. to June, 1871.]

subsided and the evacuations gradually assumed their natural state, but there remained an unnatural fullness and tenderness of the abdomen, some difficulty of respiration, especially on assuming the recumbent position, a dry and harsh skin, and a materially diminished secretion of urine. Notwithstanding the persevering employment of the usual allopathic routine of cathartics, mercurials and diuretics, the patient continued to grow worse, his abdomen became very much distended with serum, and very tender to the touch, or from even the pressure of the bed clothes; the respiration became exceedingly laborious and difficult, obliging the sufferer to remain for a good portion of the nights in his chair; impaired appetite, an almost entire suppression of urine, emaciation, debility, small and rapid pulse, anxious expression and other signs accumulated.

In this condition he came under the care of Dr. Taft, who administered *dig.*, *ars.*, *dulc.*, *merc.*, *chin.*, *sulph.*, *hell.*, but without amelioration. In the meantime, the increasing difficulty of respiration, loss of rest, of appetite and pain, had reduced the patient to so serious a condition that I was called in council with Dr. Taft in order to decide respecting the propriety of tapping. In consideration of the urgency of the symptoms and the inefficiency of the remedies which had been used, I evacuated the effused fluid, amounting to sixteen pounds, and advised a second trial of *arsenicum* and *digitalis*. No effect resulted and there began to be signs of thoracic effusion. Recourse was now had to the first trituration of the honey-bee, (5 to 100), and after two or three doses a large quantity of urine was passed, and the symptoms were all ameliorated. After the remedy had been continued for two weeks, all traces of effusion disappeared, the appetite and strength began to improve and the respiration became natural and easy. The patient was restored to perfect health.

CASE 6. *Asthma*; reported by Dr. WELLS.

Mr. N. P., æt. 70, had shortness of breath, oppression of the chest on taking an inspiration, and sensation of heat in the chest. These symptoms had been gradually increasing several weeks. Took *apis* 3, once a day, and was completely relieved in one week.

CASE 7. *Bronchitis*; reported by Dr. BISHOP.

Mary C., æt. 2 years. High fever, hot, dry skin, full pulse, laborious respiration resembling croup, painless diarrhœa, yellowish, sometimes greenish and slimy, tongue slightly coated white, disturbed sleep at night with muttering, incoherent talking. Gave *aconite*, *bry.*, *hep.* and other remedies, for three days without any benefit. Respiration very laborious, requiring unusual aid from the abdominal muscles; face flushed with increasing livid appearance. Fourth day; pulse not as frequent, but feeling under the finger like shot or some spherical body, gliding along the artery; cough attended with the ringing sound peculiar to affections of the upper portions of the respiratory tubes. Prognosis unfavorable, deeming it probable the patient would die in spite of all my efforts. Left her three doses of *apis* 3. Next day found her much better, face natural, pulse much improved, fever nearly gone, appetite improved, had slept well and without the usual mutterings, fright, &c. Continued the medicine in diminished doses and next day found her so much better that I dismissed her as cured.

CASE 8. *Cephalalgia*; reported by Dr. BISHOP.

S. A. W., æt. 36. Took one drop of *apis* for periodical headache, with direction to repeat *ad libitum*. The first dose promptly suspended a paroxysm in its insipient stage. No homœopathic remedies had ever before had any effect in

stopping his headache. The same result was obtained the second and third time. He then requested a supply of the remedy to be used as occasion required, which was furnished him, with directions not to use too much of it. This advice he did not heed. He got an aggravation of his complaint, and at length developed in his chest the true pathogenetic symptoms of the virus, viz.: sensation, as of having been bruised, jammed or beaten.

Dr. Kellogg has given the *apis* with decided benefit in the case of a female who had suffered for years under symptoms of general prostration, particularly in cold weather, attended by asthmatic symptoms, as cough, choking pain in the chest, with coldness and deadness of the extremities, and purplish livid hue. Also, in some cases of chronic sick headache, where there seemed utter prostration of the central ganglionic nerves.

CASE 9. *Diarrhœa*; reported by Dr. BISHOP.

J. M. B. Sept. 1st., 1850. Yellowish, greenish diarrhœa; some griping pain; pain in the eyeballs and across the forehead, more on the right side for some years past, but formerly in both temples alike, languid, listless, unaccountable feeling. A year ago had partial development of intermittent fever. At the time, said he had "the blues." Could not bring his thoughts to bear upon anything definitely.

Hands bluish, inclined to coldness; appetite poor. Was promptly cured of all these symptoms by a single dose of *apis* 3.

REMARKS.—The action of *Apis-mellifica* in the case of Mr. Butler (a single dose) remained about two months, and then the symptoms seemed to require its repetition. A single dose relieved him as before, and he had no occasion for repeating it for four or five months. A single dose has always been sufficient for him, and in no case do I recollect the improvement which set in, to have continued for less time than two months. Mr. B. is 23 years of age, light complexion, spare and thin, muscular power not great, uses a good deal of tobacco.

CASE 10. *Diarrhœa chronic*; reported by Dr. BISHOP.

J. S., æt. 6 years. Chronic diarrhœa and general emaciation. Sequelæ of measles. In this case there had been only a partial development of measles upon the surface, attended with fever and cough for two months, and then general emaciation, with tenderness of the bowels, loss of appetite until he was reduced to a mere skeleton. He then received from me a few drops of *apis*, which immediately improved his appetite, bowels became regular, his flesh returned, and he continued quite well for some months. Dec. 28th, 1850, saw him again; dry white tongue, loss of appetite, feverish heat during the night, and other times pale, emaciation going on. A few doses of the same remedy again set him right.

Saw him again about the 1st of January, 1851, and, at the request of his mother, left him a number of doses of *apis*, in case he should need it at any time in future. He soon after got a dose and grew worse, got another and then another, resulting in the development of a tumultuous action which, for nearly 24 hours, seemed to threaten his life. At this time I was from home attending the meeting of the Central Association, at Utica, and did not see him until the paroxysm of excitement had nearly subsided. From his mother I learned the following particulars of the case; general heat and redness of the surface, like scarlet fever, with some eruption like measles, cough and laborious breathing resembling an alarming stage of croup, muttering, delirium, &c. He got an

Feb. to June, 1871 *menopica.*

several oculists. Her eyelids were swelled, dark red, everted, denuded of the lashes, granulations along the edges, the conjunctiva reddened and full of dark vessels, the cornea darkened and smoky, vision very indistinct, eyes intolerant of light, running and agglutinated. *Apis* 30, every three or four days, changed the entire aspect of the case. The eyelids were relieved entirely, the conjunctiva lost its dark vessels, the cornea became clear, vision improved, and she left almost entirely well.

CASE 21. *Tonsillitis*; reported by Dr. HUMPHREYS.

A lady, æt. 26, subject to frequent attacks of quinsy, which, despite the application of the usual remedies, *bell.*, *lach.* and *merc.*, generally ended in suppuration, was taken with one of the old attacks, viz., chilliness, then heat, violent pain in the temples, redness and swelling of the tonsils, uvula and fauces, painful difficulty of swallowing, stinging pains in attempting to do so. She received first *aconite*, then *apis* 30, which soon afforded relief, and under its use in 24 hours every vestige of the complaint disappeared. She declares that she has never received such marked and substantial relief from any other medicine as from it.

CASE 22. *Tonsillitis*; reported by Dr. HUMPHREYS.

An unmarried lady, æt. 28, frequently subject to sore throat, was attacked with one of her usual ill turns, viz., violent pain in the forehead, lachrymal disposition, discouraged, desponding mood, very greatly enlarged tonsils with redness and swelling of the uvula and entire fauces, also great difficulty of deglutition, and smarting pain in the throat; no appetite, tongue coated. *Acon.* and *bell.* were given for twenty-four hours with no particular relief, when I resorted to *apis* at intervals of four hours either alone or in alternation with *merc.* An immediate and decided effect was produced, and in twenty-four hours she was dismissed with only a few doses of *apis* in case of relapse.

CASE 23. Reported by Dr. WELLS.

Mr. N. B. has had pains in the left hypochondriac region, extending upward into the chest. This case of several years' duration, had not been benefitted by the usual remedies, *arnica*, *sulph.*, &c. Took a few doses of *apis* 3, which entirely removed the disease.

The following cases by Mad. De Bonneville were communicated to Dr. Humphreys by Dr. Hering. The guide in the choice of the remedy was the symptom of SWELLING.

CASE 24.—An old woman, some 80 years of age, sanguine nervous bilious temperament, had a white puffy swelling of a paralyzed arm and hand. Three doses of the *apis*, one given daily, produced an entire removal of this symptom. About three months afterwards the same person from excessive grief became paralyzed upon her entire right side. Some ten days after her second stroke, the same symptom, swelling, occurred over the entire side, entirely closing her right eye. A few doses of the *apis* entirely removed this symptom.

CASE 25.—A woman about 37 years of age, sanguine nervous temperament, had both her eyes closed with a purplish, white swelling, preceded by intense pain in the right eye. One dose of the *apis* removed the swelling and when it returned a fortnight or so afterwards it was again removed by one dose, and has not returned again in eleven months.

CASE 26.—A girl of 13 years. Gave the *apis* for a dark, puffy swelling under the eyes; a dose every three days for about a fortnight, with a success.

CASE 27.—A child of nervous temperament, fifteen months old, had a whitish, red swelling of the lower portion of the anus, attended with intolerable itching. Two doses of the *apis* at an interval of six days, entirely removed the affection.

CASE 28.—A man of 28 years; sanguine nervous bilious temperament.—Sudden paralysis of the entire right side, with violent delirium, at times amounting to phrensy. Gave the *apis* the first medicine, as I learned from his wife that he had, before his attack, sudden whitish swellings that itched violently upon his head, and sometimes upon his neck. In less than an hour after giving the *apis* he was broken out in countless places upon his head, and much quieted in his mind. The swellings subsided before morning, and his phrensy was such as to require three men to hold him from throwing himself headlong from the bed.—Gave *hep.-sul.* one dose and the *apis* fifteen minutes afterwards; and he became rational for the most part of the day, and much broken out upon the calves of his legs. Used the *apis* several times afterwards in this case, always with marked success.

CASE 29.—Used it for a lad fifteen years of age, lymphatic sanguine temperament, who had been poisoned in the woods, upon the face and hands without benefit. Used *rhus-rad.* with complete success.

CASE 30.—A woman of about 30 years. Sanguine nervous temperament. Swelling of the tongue, with a dry, glossy, yellowish appearance, accompanied with excessively painful vomitings of bile &c. Gave *nux* and *bryonia* until the vomiting was subdued, the swelling of the tongue continuing, gave *apis* twice, once in three hours, with a decidedly good effect. A few months afterwards for the same symptoms gave the same medicine with good results.

CASE 31.—A young man about 20 years old, of sanguine bilious lymphatic temperament, had been thrown from a horse and his left knee badly sprained. Gave the *apis* for the swelling, one dose. Some two weeks afterwards from standing upon it too much, the knee again swelled, and the use of the *apis*, one dose, immediately removed the swelling.

CASE 32.—A woman of about 30 years had swelled eyes every morning for a long time. Cured by three doses alternated with *sulphur*. I never saw her.

CASE 33.—A man of about 45 years, nervous sanguine temperament.—Painful, puffy swellings of the knees. Five doses alternated with *iodium*, a dose once in three days, cured the affection.

NOTES ON THE PATHOGENESIS OF THE SEEDS OF THE
 "NONDESCRIPT CEDRON : " WITH SOME CLINICAL
 OBSERVATIONS. *

By JOHN N. CASANOVA, M. D.

(From the *Monthly Homœopathic Review*, June 1861.)

"The physiology of a drug, without the therapeutics, is dead knowledge ; its therapeutics, without its physiology, is blind opinion. Sure knowledge is only reached when we obtain the physico-pathology of a remedy, blended into one by means of a great general therapeutic principle."—Dr. Mayerhofer, L. C.

Symptomatic Group of the Mental Faculties.

Gloomy, depressed spirits ; disposition to weep ; inquietude and excessive anguish ; dullness of the senses ; torpor of the mental faculties, and uneasiness ; dread of friends, females particularly. The greater part of these symptoms were repeated in the morning, and aggravated at night.

Clinical observations.—*Cedron* has proved beneficial in a case of timid melancholy, of several years' standing, with a regular intermittent tendency to suicide. The symptoms of this patient (a gentleman about 48 years of age, born in South Africa) were as follow :—Gloomy state of the mind, longing for death ; despondency, irresolution, hopelessness, despair, and tendency to suicide, but too timid to accomplish the act ; listlessness, and prostration of the powers of volition ; subject to impressions of fear and distress, with many imaginations during the day, and horrible dreams at night.

The greater part of the above symptoms were more or less aggravated in every quarter of the moon, and much more so during the full moon. That of suicide was present every day, from 10 A.M. to 2 P.M., during which time he used to make secret attempts against his life, almost always with a razor, but never had courage enough to consummate the horrible act.

I gave him *cedron* 12, in solution, at different intervals of time, after having tried *aurum*, and several other remedies, in vain. Under its influence, the periodical symptoms of suicide disappeared in a week ; the other mental manifestations remained much in the same state as before.

Six weeks after this favourable result, his family persuaded him to take some allopathic remedies for the said manifestations, when the suicidal thoughts and attempts returned again. Having lost sight of this patient during the antagonistic treatment, I am unable to say what has become of him.

* The pathogenesis of *Cedron*, a drug so important in the treatment of Intermittent Fevers and other diseases, has not yet appeared, in any thing like a respectable shape, in any of our treatises or text-books on *Materia*. We have not, therefore, hesitated to reproduce the following, though from an old number of a contemporary. We have added, as will be seen, the provings given in *Teste's Materia Medica*, the results of which do not seem to have been incorporated by Dr. Casanova.—*Editor*.

The indication which led me to administer *cedron* in this case, was the well-marked periodicity, already described as characteristic of the remedy, and as the leading symptom of the group.

I am not prepared to account for the failure of *aurum*, whose sphere of action is homœopathic to suicidal attempts, unless we admit that the terms *homœopathicity* and *specificity* each one involves a different mode of action, as I think it does; but I know, from experience, that whenever vital periodicity is the type, *aurum* does not meet intermittent symptoms of suicide, whilst *cedron* will be the true specific for this form of disease, though unattended with the homœopathic characteristic of suicide, because the alternate manifestations of this symptom correspond with the alternate effects of the drug. This proves Dr. Teste's proposition, where he says "that it is not sufficient that a drug, in order to be really homœopathic to a given disease, should be capable of producing symptoms similar to those of the natural malady; but that the alternate effects of the drug and those of the disease must develop themselves in the same order."

Symptomatic Group of the Cephalic Region.

Head dull and heavy in the evening; distensive headache, increased during the night; temporal arteries enlarged. Bending the head backwards, with pressure on the occiput and parietal regions, as if those parts were going to burst.

Forehead cold, and as if it were empty, in the morning.

The above symptoms were principally manifested in provers of a voluptuous disposition, and of an excitable nervous temperament; and more in females than in men. They were, more or less, repeated every day, whilst under the action of *cedron*.

Clinical Observations.—Several cases of chronic intermittent headaches, with shooting and pressing pains in different parts of this organ, recurring at certain periods of the day or night, have been permanently cured with *cedron*, among which the following is a very interesting one:—

A gentleman, 36 years of age, born in the South of Spain, of an extremely voluptuous disposition and nervous temperament, had been suffering from a *tic-like* pain over the left eye, for more than thirteen years, with the singular circumstance that such a pain *never* came on except *post coitu*. He was radically cured in three days, with *cedron*.

When circumstances had occurred to give rise to the pain, his sufferings were so intense on waking in the morning, that he was compelled to keep his room for several days, and was unable to eat or drink during the greater part of that time. The following symptoms were manifested during the paroxysm:—

Tearing shooting pain on the left orbit, extending to the inner canthi, and to the superciliary ridge of the os frontis; pressure on the occiput; forehead

pale and cold; the temporal arteries were enlarged; twitching of the eyelids; great exacerbation; chilliness and feverishness, at intervals; rigidity of the nape of the neck; restlessness; tongue coated and dry, yellowish in the centre and reddish at the borders; cold extremities; no appetite; no thirst; skin cold and dry; urine scanty and highly coloured; constipation; ineffectual urging to stool.

The first day I saw him in the paroxysm, I administered *cedron* 2,30 in solution; afterwards, there was remission of the principal symptoms, and he slept well the greater part of the night.

On the second day he felt comfortable. He complained of nothing except of weakness of body and mind. A second dose of *cedron* 2,30, dry on the tongue, was given in the evening, and low diet prescribed.

The third day the patient felt perfectly well. He had a copious discharge of urine, and semi-liquid whitish faeces, somewhat like starch. As he wished for some substantial nourishment, it was given to him.

The fourth day he resumed his business, and had three doses more of *cedron* of the same potency, two globules each, to use immediately after the recurrence of the exciting cause, as a prophylactic. He took the medicine for two successive days, without the least recurrence of the attack, and has continued perfectly free ever since.

Second Case.—A single female servant of mine, of sanguine temperament, and robust, 22 years of age, born in the Isle of Man, subject to frequent nocturnal spermaperthy, had been suffering from similar pain, for three years before she came to my service, which pain, over the left eye, was accompanied by similar symptoms to those of the last case, except the pressure on the occiput and rigidity of the nape of the neck. She felt those symptoms after her involuntary spermaperthy, on waking in the morning, and suffered very much from them till about noon.

She took 2 grains of *cedron*, first decimal trituration, in a single dose, during the apyrexia, and another the following night; and these two doses were sufficient to check the pain and to remove the cause.

Symptomatic Group of the Ocular Region.

Eyes protruding and red, with pressive pain, extending to the forehead.

Pupils fixed and dilated. Objects appeared red at night to one prover, who was very sensitive to the action of *cedron*, and yellowish during the day; these symptoms lasted seven days in the same prover (a young lady 18 years of age), and disappeared after the administration of belladonna as an antidote to *cedron*.

Eyelids injected, bright red, and painful when pressed.

Enlargement of the meibomian glands and conjunctiva.

Clinical Observations.—A girl, 11 years of age, suffering from photopsia, who, among other symptoms, perceived a red luminous colour on every object at night, by artificial light, had her sight restored to its normal condition by taking six globules of *cedron* 30, in solution, given at three divers intervals, in the afternoon.

Symptomatic Group of the Auricular Region.

Buzzing of the ears towards noon ; hardness of hearing at night.

Clinical Observations.—Several persons, of both sexes, who had been treated with excessive massive doses of sulphate of quinine, for intermittent fever, after the fashion of the old school, were very much troubled with the above mentioned symptoms, as the peculiar effects of that drug ; and were permanently cured with *cedron*, in different potencies.

Symptomatic Group of the Facial Region.

Flying heat, alternated with chills, towards evening, with bloated appearance ; cheeks red and burning at night, pale and cold in the morning ; pressing or tearing pain in one or both cheeks, with occasional shoots under the orbits ; spasmodic twitchings of the muscle *levator palpebrae superioris*, observed in two provers during three successive nights.

Clinical Observations.—Many neuralgic pains of the facial nerves (*prosopalgia*), more in females than men, manifested on the right, and sometimes on the left side of the face, have been successfully treated with *cedron* 12 and 30. The attacks were, in some individuals, very distressing, and attended with spasmodic distortion of the muscles corresponding to the affected region (the *zygomatic process* almost always), and recurring in regular paroxysms of indefinite duration.

Symptomatic Group of the Buccal Region.

Mouth dry, with viscous saliva, when talking ; thirst, and desire for cold water, at noon ; warm during the night ; aversion to cold water in the evening ; the saliva becomes sour at night ; pricking of the *Tongue* early in the morning, which goes off after eating.

Clinical Observations.—A single lady, 22 years of age, from the north of England, had suffered for more than three years from a peculiar affection of the mouth and tongue, which appeared only with the catamenia, and lasted as long as that discharge. The symptoms were as follow : mouth and tongue very dry ; difficulty of speech ; great thirst at all times ; painful pricking in the tongue, with a sensation of burning heat ; she felt, at times, as if the tongue was paralyzed ; pale colour of the face ; deep sunken eyes ; odontalgia every night ; fetid odour of the breath.

Lips cold, bluish, and dry ; slight bleeding of the gums now and then.

All these symptoms terminated with the catamenia, with a profuse pytalism and leucorrhoeal discharge, which lasted two days. At my suggestion, she took two grains of *cedron*, third decimal trituration, two days before the menstrual discharge had set in, for three successive months ; and the disease disappeared entirely from that time.

Symptomatic Group of the Respiratory Region.

Larynx constricted and tender ; difficulty of swallowing ; difficult respiration, with partial loss of the voice, recurring at different intervals.

Clinical Observations.—A case of chronic intermittent laryngitis in a young married lady, erroneously treated for *Phthisis pulmonalis*, by an allopathic physician, was cured with four doses of *cedron* 30, in one week's time. The paroxysms came on regularly every evening, with shivering chills, and lasted about two hours, terminating with a profuse perspiration.

Orthopnea.—A very healthy-looking young person, 15 years of age, suffered from suffocating fits regularly every day, from 10 to 12 o'clock, A.M. There were sensations of choking or stifling ; difficulty of breathing, obliging her to stand in an erect position ; enlargement of the tonsils during the attack, with redness of the velum palati, and constant need of swallowing. All these symptoms were aggravated after sleeping, and mitigated by eating. Two grains of *cedron*, first decimal trituration, cured this girl in two days after *lach.*, *ars.*, *phos.*, and *tart. stib.*, had been administered in vain, during two weeks, by another homœopathic physician, notwithstanding their pretended isomorphous relation.

Symptomatic Group of the Thoracic Region.

Oppression of the chest and throbbing of the heart.

These are characteristic symptoms of the venom of serpents, described by those who have observed and experienced its effects ; and for which *cedron* is a sovereign remedy. Almost all provers of *cedron* have felt the abovementioned symptoms, in a greater or lesser intensity, particularly those in whom fever paroxysms were developed.

Symptomatic Group of the stomach and Intestinal Regions.

Stomach.—Sensation of heat, and fulness in this organ ; distension, and disposition to nausea, generally aggravated by rest, but relieved by walking and eating.

Clinical Observations.—A gentleman, 50 years of age, of sanguine temperament, and of sedentary habits, had been allopathically treated for chronic dyspepsia, although there were no sufferings whatever from food or drink ; on the contrary, food afforded him some relief. His symptoms were—uncomfortable feeling of the stomach, which obliged him to lie down ; great sensitiveness of the præcordial region ; pulse small and hard ; dryness of the mouth and fauces ; depressed spirits and inquietude. These symptoms appeared every day, from 10 till 11, A.M., and lasted from one to two hours, after which there was prostration of the body and mind for an hour or two. All these sufferings, to which this patient had been subject for the eleven months preceding, disappeared after taking two grains of *cedron*, first decimal trituration, during the apyrexia, every day for three days.

Abdomen.—Hard and distended towards evening; flatulence in the morning, with slight colic, and occasional discharge of fetid wind; stitches, in the spleen and in the liver.

Stools.—Constipation; unsuccessful urging to relieve the bowels; yellowish loose evacuations, three days after taking large quantities of *cedron*, in some provers; and whitish, mixed with fragments of a mass, similar to clotted milk in others.

Clinical Observations.—Three children, from 4 to 7 years of age, suffering from white, frothy, and papeseent evacuations, immediately after meals, accompanied with slight colic and inodorous discharge of wind, were cured with *cedron* 6 and 12, taken in solution, two hours before meals.

Symptomatic Group of the Genito-urinary Regions.

Genital.—Plures homines, membro genitali noctu erecto, ardebant in Venerem. Excitatio genitalis diluculo in duabus nuptis una cum emissionem leucorrhœe simili, et mammis tumefactis cum quodam dolore. In juvene emissio, gonorrhœe similis, triduum perstans, et sponte sua cessans, medicamento intermisso.

Urinary.—Scanty urine; dark, with sediment, in both sexes; frequent urging to urinate, but ineffectual.

Clinical Observations.—Two females, suffering from leucorrhœa, regularly every month, five or six days previous to the appearance of the catamenia, with pain in the uterus, and enlargement of the vulva, were permanently cured with *cedron* 6, taken four days before the recurrence of the usual symptoms. Another young person was cured with two doses of *cedron*, two grains each, of the first decimal trituration in solution. She had been suffering for several months from a periodical leucorrhœal discharge, which appeared in the place of the catamenia. She was restored to her normal condition the third month after she took the medicine.

Symptomatic Group of the Upper and Lower Extremities.

Upper.—Passing pains in the elbows and fore-arms, with a cold sensation, extending to the hands towards noon.

Lower.—Lancing pains in the joints of the knees; contracting pains in the legs, as if produced from contusion, in the evening. These and the above were relieved by friction, when not followed by chills, or shivering of the whole body, as precursors of fever.

Symptomatic Group of Pyrexia.

Feverish paroxysms every day (quotidian) in some provers, and every other day (tertian) in others, towards 8 o'clock, p. m., preceded

by depressed spirits, dulness of the senses, and pressive headache at noon; cramps, then contracting and tearing pains in the upper and lower extremities, with a cold sensation in the hands and feet; mouth dry, great thirst, and desire for cold water; chills and shivering; sometimes very strong shuddering of the whole body; palpitation of the heart and hurried respiration; pulse weak and oppressed. These symptoms lasted from one to two hours, and varied much in intensity; they were followed by a sensation of dry heat, and then of a profuse perspiration, full and quick pulse, with animated red face; cold and pale in the apyrexia; thirst and desire for warm drinks.

Clinical Observations.—Hundreds of cases of intermittent fever, of different types, have been successfully treated with *cedron*, in different countries since 1847, many of which had resisted the action of other drugs, previously administered, by physicians of both schools. *Cedron* was given in the suitable quantity, quality, and form, immediately after the first stage (during heat), and as soon as the third stage (sweat), had set in; and again, from two to three hours before the usual time, or return of the next paroxysm.

Drs. Petroz and Teste, of Paris, and the Rev. F. A. Espanet, of Algiers, were the first medical men who employed *cedron* with equal success in the same disease, the former in France, and the latter in Africa; and I claim the honour of being the first physician who, since 1847, administered this drug homœopathically in South America and in Spain. I am not aware that *cedron* had been used in any of the British Isles before my arrival in England (1855), for any of the maladies against which it has proved to be efficacious. My enquiries among medical men and homœopathic chemists prove that they knew nothing more about this drug at that time than what had been said by Dr. Teste, in his *Materia Medica*, which appeared (the American edition) the year before. In consequence thereof, I distributed several seeds among my friends, in the hope that a better qualified pen would have written, ere this, the results of some experiments made on the subject.

I could give the history of many cases treated by myself in those countries, but the limits of this paper do not allow me to extend beyond those I have already given. Let it suffice to say that the evidence of my statement is corroborated by the reports of the above-mentioned gentlemen, whose authority is incontrovertible. Their experience and mine on the subject constitute *ample data* to establish the therapeutic properties of *cedron* as an anti-periodic of the first class

for those forms of intermittent fevers peculiar to or endemic in hot and marshy regions ; and for other affections whose type is *vital periodicity*.

Symptomatic Group of the Sleeping State.

Restless sleep and confused dreams in both sexes ; sometimes very profound sleep ; a general feeling of fatigue after awaking, if the time has exceeded more than six hours, and a general weakness of the body and mind.

Clinical Observations.—A grown up person and two children (a girl and boy), who were in the habit of getting up at night and walking about the room in a perfect and profound state of sleep, were cured, in less than a week's time, of that sort of periodic somnambulism, by repeated doses of *cedron*, 6 and 12, taken two hours before going to bed ; and their uninterrupted sleep was restored. The former of these three patients could read and play on the piano-forte in that state. At other times she would descend from her bedroom to the pantry, and help herself to food, returning to her chamber without disturbing any one in the house. The little girl was in the habit of taking her needlework and sewing in her bed. The boy would insist always in opening the front door, to go, as he said, "to school," carrying his books and bag with him.

These sleep-walkers were very sensitive to dynamic remedies, as I had the opportunity of observing at that time, and during other illnesses, afterwards.

Symptomatic Group of the Nervous System.

Cedron has not developed, in any of the provers subject to its influence, the totality of symptoms peculiar to those diseases classed by nosologists under the head of *nervous affections*, such as *epilepsy*, *chorea*, and *eclampsia*, excepting those recorded under the cephalic, orbital, auricular, facial, and buccal regions, some of which are peculiar to nervous, chronic headaches, and to different forms of chronic and acute neuralgia of the said regions ; and yet *cedron* has proved beneficial in some forms of the first-named maladies (as it has in the preceding cases of somnambulism), when they were manifested in paroxysms of regular periods of time, as it will be seen in the following :—

Clinical Observations.—Two cases of epileptic patients have been permanently cured with *cedron* 12 and 30. The first was a boy, about 12 years of age, and the second a young lady, of 17. In the former the attacks were announced by headache, and numbness of the arms and legs ; then followed flashes of light before the eyes, palpitation of the heart, and loss of consciousness ; the little patient then fell, and the paroxysm took place with convulsions of the whole body, lasting from eight to ten minutes. The attack was regularly repeated

every day, from 5 to 6, P.M., for which *cedron* 12 was given immediately after the paroxysm, and again at noon, on the corresponding day of the attack, for six alternate days. After this he felt perfectly well, and has continued so ever since.

The latter was a case of menstrual epilepsy, precursory symptoms of which were manifested precisely the same day that the catamenia commenced; these symptoms were vertigo, *timuitus aurium*, and irregularity in the action of the heart; then the *aura epileptica* followed, with loss of consciousness, and falling. The patient uttered a distressing cry now and then, alternated with *risus sardonius*, and slight foaming at the mouth, during the attack. *Cedron* 30, four globules in each dose, dry on the tongue, given the day before the usual periodic discharge, and again after the paroxysm, during two successive months, cured the disease.

Chorea.—A recently married woman, 27 years of age, of sanguine temperament, and robust, born in the north of Scotland, suffered, *post coitum*, from irregular and uncontrollable movements of the muscles of the left upper and lower extremities, and of some portions of the face, manifested by grimaces and contortions of different kinds; these symptoms lasted from fifteen to twenty minutes; she could not speak without stammering, and her respiration was very much affected; she also had involuntary discharge of urine and fæces, at times, during the attack.

Her husband consulted me on the subject, and explained every symptom of the case. From circumstances which came to my knowledge during a professional examination, I gave *cantharis*, *platina*, *belladonna*, *hyosciamus*, and *stramonium*, but without any effect. *Cedron*, however, in two grain doses of the first decimal trituration, administered before and again after *coitus*, at three different times, put an end to her sufferings; and she continues to enjoy most excellent health.

Eclampsia.—A female baby, 14 months old, and of an unusually precocious development, suffered from convulsions caused by the process of dentition. The attacks came on every day at 5 P.M., and lasted about ten minutes. They were manifested by her first refusing the breast, by a dull appearance of the eyes, livid face, and chills, followed by convulsions of the upper and lower extremities, and insensibility. On her recovery from the paroxysm, she remained dull and somewhat lethargic for about half-an-hour,

This little sufferer had had two attacks before I saw her, the symptoms of which were described, as above, by her own mother, a very intelligent lady, and a firm adherent to the homœopathic method. The baby was bathed in warm water, and some *ignatia* administered by her parent without any effect. I managed to be present at the third expected paroxysm, and gave her, in the meantime (two hours before the usual time of the attack), two globules of *cedron* (30) dry on her tongue. I called again at the corresponding hour (5 o'clock), and was very agreeably surprised to learn that the child was taken ill about twenty minutes before my arrival, but with symptoms much modified, and of a very short duration (five minutes only). She was perfectly conscious, but still looked weak and depressed. I repeated the remedy immediately, gave some to the nurse, and left a third dose for the baby, to be taken on the following day about noon. By this treatment alone the child escaped from the fourth paroxysm, and continued well up to this day. Another case of

Epileptiform eclampsia, in a pregnant woman, 27 years of age, born in the south of Spain ; of nervous temperament, and in her first state of utero-gestation, of 7 months' standing, was cured, after the second paroxysm, with cedron (12), administered before and after the attack, which came on regularly twice a day (morning and evening at the same hours), with the following premonitory symptoms—intense pain in the forehead ; tumid face, with pupils much dilated ; then a feeling of giddiness, resulting in her falling down in the most distressing convulsions ; insensibility ; closed teeth, and frothy secretion from the mouth ; difficult respiration, irregular pulse, and palpitation of the heart. This state lasted for about six or eight minutes ; she felt very weak on the recovery of her consciousness, discharging a large quantity of inodorous urine, as clear as pure water.

This patient had four attacks before I saw her, which were attributed to her having witnessed the execution of a criminal. These had been treated by an allopathic physician (who has since embraced homœopathy), with what he then called "antispasmodic remedies." He became much interested in this case, watching it to the last ; and from the information I gave him about Cedron, and about the homœopathic law, he was induced to investigate our doctrine, and to accept it. He now is practising it with success.

SUMMARY.

From the information obtained by reliable persons, who have observed and experienced the anti-venomous properties of cedron in cases where individuals have been bitten by different kinds of serpents, and from the preceding symptomatic arrangement, as well as from the clinical observations connected with the administration of the same remedy in different diseases, we come to the following conclusions, viz., that cedron is—

1st. An absolute antidote to the venom of those serpents indigenous to the country whence this drug originates, having the property of positively neutralising or counteracting the venom itself, so that the progress of its toxical effects is almost instantaneously checked.

2nd. A real homœopathic agent to certain forms of intermittent fevers, endemic to damp, warm, and low marshy regions, being capable of affecting the healthy organism precisely as the natural disease does.

3rd. An infallible specific to different non-pyrexial ailments, whose type is characterised by a well-marked periodicity, no matter what other symptoms may accompany the disease—a property which ought not to be confounded with that possessed by, or inherent to, *isopathic* remedies, having the efficacy of curing certain kinds of ailments, by the well-known law *æqualia equalibus*, without affecting the healthy organisms, in like manner to the affection they cure, whereas cedron does this in part.

This apparent paradox might perhaps be explained by the fact that *vital periodicity* is the *typo-symptom*, or emblem of symptoms, if I am allowed to use this expression—a symptom *par excellence* which leads other symptoms in either regular or irregular periods of times, and in a greater or lesser degree of intensity, and by the circumstance that when a given disease is periodically governed by the *recurrence* of the same symptoms (be what they may) at *fixed* and in *definite* intervals, cedron then meets that phenomenon homœopathically and specifically at once ; and

4th. An efficient prophylactic to those forms of fever mentioned in the second conclusion. Cedron, in such cases, prevents their development, when taken opportunely and in suitable doses, as I have seen it in hundreds of persons with equal success in Spain, Africa, and South America. This sort of antagonism certainly gives immunity to those constantly exposed to the deleterious disease-producing agents of those regions, whilst under the influence of the drug. But in using cedron as a prophylactic, care should be taken not to repeat the dose too frequently, otherwise pathogenetic effects will be produced by it.

The following table shows the anatomical regions and physiological functions affected by cedron on fourteen different persons in health, and of different sexes and age, including myself, to whom the drug was administered through the stomach in different preparations, at different intervals of time, and in different quantitative doses, viz. :—

1st. The concentrated aqueous solution, and the first and third decimal potencies, from the same solution.

2nd. The first, second, and third decimal triturations from the pure powdered drug.

Triturations have proved to act quicker and more intensely than solutions. Is it not rational to suppose that it should be so? The triturated drug contains all its constituent principles, whereas from the solution nothing but the soluble elements are obtained. It is, then, from the lesser proportional quantity of the essential principle which constitutes the active force of the drug, contained in the solution or tincture, that its characteristic property is less intense.

Some of those individuals were very sensitive to the action of the drug, whilst others were, on the contrary, very refractory to every one of the stated preparations. But their receptivity became, in some, very great when ill, as I had the opportunity of witnessing more than once.

Four of the provers took the medicine unconsciously. It was thus administered to them purposely in order to avoid the effects of ima-

gination, with respect to the real action of the drug upon their organism. I am, therefore, convinced that the symptoms recorded, after their sensations, are true and reliable.

Anatomical Regions and Physiological Functions affected by cedron on the different Provera.	Affected Adults.		Affected Children.		Non- Affected.		Total Affected.	
	Males under 30 years.	Females under 20 years.	Males under 12 years.	Females under 12 years.	Adult Males and Children.	Adult Females and Children.	Adult Males and Children.	Adult Females and Children.
Mental	3	5	2	2	1	1	5	7
Cephalic	4	6	1	3	0	0	5	9
Ocular	2	3	1	2	3	3	3	5
Auricular	6	5	1	2	0	0	7	7
Facial	2	3	1	4	3	1	3	7
Buccal	1	2	1	2	4	4	2	4
Respiratory	3	4	2	3	1	1	5	7
Thoracic	4	5	1	2	1	1	5	7
Stomach & Intestinal ..	2	3	2	1	2	4	4	4
Genito-urinary	2	7	1	2	1	1	3	9
Upper and Lower Extremities	3	4	2	3	1	1	5	7
Pyrexical	3	5	2	2	1	1	5	7
Somnus	4	6	1	1	1	1	5	7
Nervous	2	3	1	1	4	3	3	4

I have also instituted a few provings with the concentrated solution of cedron, by introducing a sufficient quantity of it through the skin, some by inhalation, and others by enema; and such provings have, more or less, corresponded with those made by taking the drug into the stomach; and in these experimental trials, I have employed the second and third method of administration in natural maladies when homœopathically adapted to them, and to the race of men to whom the medicine was thus given.

I shall now terminate my imperfect notes on the physiological and therapeutical ranges of cedron, in which I have been practically engaged ever since I became acquainted with this drug—with Dr. Hempel's conclusion of his lecture on *Aconitum napellus* (see his *Materia Medica*, page 195), where he writes:—"That it is only by studying the physiologic effects of our drugs with constant reference to the pathological conditions with which they are in therapeutic rapport, that we shall weave a golden thread, which, like *Ariadne's* thread

of old, will lead us through the dark maze of symptomatology, into the bright sunshine of therapeutic truth."

Note.—When I use the expression "potency" in the course of these notes, it must be understood that that term has no relation to quantity, or number, but to the adaptation to races of men, and to the peculiar diseases for which the drug is given. In this sense, a high potency of cedron may be a far more efficient potency for an individual born in a southern latitude, and for a malady endemic to hot regions, than for a northern one, or for a disease not peculiar to cold climates, than a low potency. Whereas, on the other hand, a few grains of the massive drug may excite a more positive curative influence, and therefore constitute a more efficient potency for a Northerner than for a Southerner, in either hot or cold latitudes (see my suggestions on the adaptation of drugs to different races of men, page 208).

Provings from Teste's *Materia Medica.*

First proving. M. G. B . . . , a native of Wallachia, 24 years old, skin white, hair auburn; not very fat; constitution delicate; enjoyed good health at the time of the trial.

The proving was instituted with ten drops of the sixth dilution in a tumblerful of water, of which the prover took a table-spoonful every morning for four days, and a table-spoonful morning and evening on the fifth day, after which he discontinued the medicine. On the day following, the sixth day of the proving, the following symptoms showed themselves:

30th of Aug. 1851. At three o'clock, shuddering all over the body, with malaise and desire to lie down; the shuddering is renewed by motion; hands, feet and nose are cold; flying heat in the face, several times; and lastly, towards six o'clock in the evening, constant heat in the face, which looks animated, with smarting in the eyes, especially when closing them. Lips dry, with desire to moisten them often. Headache, especially in the bottom of the orbits, compelling him to close the eyes, and extending to the occiput. While this congestion of the head lasts, the shuddering continues all the time; the hands, feet and nose remain cold; urine of a dark-red color.

31st of Aug.—Malaise with much weakness; loss of appetite; red urine; no stool.

1st of Sept.—Same as the day before; in the evening, copious stool.

2d Sept.—Weakness; flatulent colic, in the morning, with discharge of fetid flatulence. After talking, the saliva becomes white and thick like cream. At three o'clock, the paroxysm of the previous day returns again, but much feebler.

3d Sept.—Weakness; the appetite returns; laming, passing pains in the joints, and especially the right elbow.

4th Sept.—All the symptoms disappear.

5th Sept.—Slight shuddering, only towards three o'clock. No symptom of any consequence either on the next or the following days.

Second proving.—Mrs. T., 27 years, sanguine temperament, delicate constitution, disposed to cerebral congestions, although her head is rather small; lively and cheerful: want of decision; very sensitive to the action of drugs. Ten drops of the sixth dilut. in a glass of water; a tablespoonful morning and evening, for two days only.

First day.—At nine o'clock in the morning. Pain at the elbow and right forearm, as from a shock or blow, for a quarter of an hour. Oppressive pain in the chest, extending to the back every now and then, with frequent desire to moan and take a long breath. Pressure at the right temple, causing a dull pain in the whole right side of the head. These symptoms continue part of the morning, but disappear completely towards noon.

Towards six o'clock in the evening (immediately after dinner), cold all over; shuddering in the back; icy coldness of the feet; the hands are burning; sensation in the eyes as if one had wept a good deal.

For a week past she had had a frequent desire to urinate; this ceased on the first day of the proving.

Second day.—Pain in the right arm, as the day before, (at nine o'clock in the morning); distended abdomen; borborygmi in the left side of the abdomen. In the evening, towards half-past six, half an hour after dinner: shuddering in the back and legs; unusual paleness of the hands; red face; heaviness of the head; stretching, towards seven in the evening; general coldness all evening; increase of the headache, in the open air (towards nine o'clock); pressive pain over the eyes as if a band were tied round the parts; no thirst during the shuddering; dry heat at night.

Third day.—(No medicine had been taken since the day previous). No perceptible symptoms in the morning. Towards five in the afternoon: intolerable prickling itching at the tongue, obliging her to rub this organ incessantly against the palate; at the same time taste

as of iron in the mouth, causing a profuse flow of saliva ; sour taste, colic at dinner ; unsuccessful urging to stool. At half past six, feverish paroxysm like that of the day previous, but more intense, with smarting in the eyes, which is only stopped for a moment by rubbing ; laming and weary pains in the shoulders ; profuse emission of watery urine.

Fourth day.—In the morning, pain at the heel, as from an abscess, only when walking, for one hour, after which period the pain ceases entirely.

Towards six o'clock, feverish paroxysm similar to that of the previous day, but less marked.

Fifth day.—Constipation ; the evening-paroxysm is much less violent than that of two days previous, but much more so than the paroxysm of the day previous.

Eighth day.—Pains in the loins and back, on rising in the morning. In the evening, towards half past five : pricking at the tongue ; itching at the eyes ; shuddering, an hour after, with heat in the face ; hands pale, feet and tip of the nose cold.

Twenty-second day.—Slight shuddering towards nine o'clock in the evening.

The febrile paroxysm returned, one day stronger, the next weaker, for more than three weeks in succession, and at least for twenty days after discontinuing the drug. Various unpleasant sensations, such as contusive pains at the elbow, or pains as from an abscess at the heel, likewise recurred periodically every morning about nine o'clock, but only the first week. From the second day of the proving, the appetite decreased considerably, the alvine evacuations became less frequent, and the headache, which generally consisted in a pressure at the top of the head, slight in the day-time and somewhat violent, only at the moment when the shuddering commenced, never ceased altogether ; the face was generally slightly bloated.

Third proving.—Miss C., 17 years old, lymphatico-nervous ; skin fine and white ; hair ash-colored ; face pale ; shape rounded ; small ; neck and head considerably developed ; of an enthusiastic turn of mind ; very sensitive to the action of drugs ; suffering with a nervous affection of the heart, for which she took cedron, four globules of the sixth dil., dissolved in a table-spoonful of water ; this medicine did her no good ; on the contrary, it produced the following effects :

First day.—Towards six o'clock in the evening (the medicine had been taken at nine in the morning) ; shuddering, soon followed by a

dull and heavy frontal headache, spreading to both parietal regions, with redness of the eyes, itching of the inner and outer sides of the eyelids; icy coldness of the hands and *the tip of the nose*, even in the midst of the febrile reaction, (the pulse is 80,) the remainder of the face being red and burning; lastly, dimness of sight; dilatation of the pupils; objects look red; mouth dry, with thick, viscous saliva; constriction of the throat, which scarcely allows her to swallow the saliva; anxiety; restlessness, generally malaise.

Night restless; no sleep, with a flow of confused ideas until five in the morning (until then the prover had always slept well at nights).

Second day.—No other symptoms but those of her disease, until half past five in the afternoon, when a paroxysm similar to the previous one, takes place; she took a dose of lachesis, and the paroxysms did not return.

THE LATE HOMŒOPATHIC HOSPITAL IN CALCUTTA.

WE are indebted to the kindness of a friend for a copy of the First Half-yearly Report of the Calcutta Native Homœopathic Hospital, founded by Dr. C. Fabre Tonnere in January, and opened for the reception of patients, in March 17th, 1852, under the patronage of Lieut-General Sir John H. Littler, G. C. B., then Deputy Governor of Bengal. The Institution did not meet with the support it deserved. A native gentleman of Calcutta had promised to place a large and convenient house at the disposal of Dr. Tonnere ; but some "recent circumstances" rendered "this expectation improbable," and it was "feared that owing to the lack of funds, the *Hospital* must be shortly closed." The hospital *was* closed after about a year and a half from its foundation. Subsequently to the publication of this the first report the funds did not permit of the publication of a second. So that the report under notice was the first and last that was ever published by the hospital, and as such it is a most interesting document, as forming the only written page of the history of homœopathy in India down to a very recent period. The report has become so very scarce that after years of fruitless search we had despaired of ever having a sight of it, when the other day, to our agreeable surprise, Ba'bu S'ambhu Chandra Mukhopa'dhyaya, who had like ourselves taken a deal of trouble in finding it for us, placed it in our hands. We publish the report entire, exactly as we found it, without even correcting the obvious typographical errors, and we have no doubt that, as friends of homœopathy and therefore anxious to be acquainted with its history, our readers will feel interested in its contents.

There is nothing remarkable in the report itself except that six cases of *Lepra Vulgaris*, three of *Lepra Tuberculosa*, two of *Lepra Alba*, and one of *Cancer* are said to have been cured. We have authentic proof of the two cases of cure of *Lepra Alba*

mentioned here, in one of which there was relapse, again yielding to the same mode of treatment. This tallies with our own experience of the disease. We are, however, inclined to be sceptical about the reputed cures of *Lepra Tuberculosa*. We do not doubt there was improvement of these cases under homœopathic treatment, but so far as our own experience goes, we cannot persuade ourselves to believe there was radical cure of any of them. As for the case of *Cancer* that was cured, we cannot help suspecting that there must have been either error in diagnosis, or mistaking improvement for cure.

The publication of the report, we are told, and as might have been expected, called forth much comment of an antagonistic nature in the local papers, and the above reported cures must have helped to give an air of reasonableness to the criticisms, and no doubt confirmed many in their disbelief. This, however, cannot justify the Calcutta Public having allowed the Institution to die from want of support; and this certainly does not take away from the praise due to Dr. Tonnere for not only having conceived the idea of founding, but having succeeded in founding, and in carrying on, a Homœopathic Hospital in Calcutta at a time when homœopathy was known only to a few military men and perhaps to a few civilians, who used to keep boxes of globules to treat themselves and their dear ones to escape not only from the sufferings of disease in a foreign land, but also from the horrors of the orthodox practice. Short-lived as the Calcutta Native Homœopathic Hospital was, we have no doubt, it has contributed greatly to the advancement of Homœopathy in India, and the names of its founder and promoters would deserve to be handed down to posterity as the pioneers of the blessed system in this part of the world.

FIRST HALF YEARLY REPORT

OF THE

CALCUTTA NATIVE HOMŒOPATHIC HOSPITAL,

UNDER THE PATRONAGE

OF

LIEUT. GENERAL SIR JOHN H. LITTLER G. C. B.

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**CALCUTTA :**

**PRINTED BY P. S. D'ROZARIO AND CO., TANK-SQUARE.**

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**1852**





# CALCUTTA NATIVE HOMŒOPATHIC HOSPITAL,

*Founded by Dr. C. Fabre Tonnerre, in January 1852, and opened  
for the Reception of Patients, March 17th, 1852.*

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## Patron,

LIEUT. GENERAL SIR JOHN HUNTER LITTLER, G. C. B.

## Treasurer,

THE ORIENTAL BANK CORPORATION.

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C. FABRE TONNERRE, M. D., SUPERINTENDENT.

BABOO MUTTYLALL GOOPTO, ASSISTANT.

FIRST HALF EARLY REPORT  
OF THE  
CALCUTTA NATIVE HOMŒOPATHIC HOSPITAL,  
UNDER THE PATRONAGE  
OF  
LIEUT. GENERAL SIR JOHN LITTLER, G. C. B.

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“Concerning the publication of novel facts,” says Sir Humphry Davy, “there can be but one judgment ; “for facts are independent of fashion, taste and caprice ; and are subject to no code of criticism. “They are more useful perhaps, even when they contradict, than when they support, received doctrines, “for our theories are only imperfect approximations to “the real knowledge of things.” For several years past the Homœopathic System of Medicine, in the hands of Hahnemann and his followers, has presented facts of this kind to the Medical World. In numerous places it challenges public attention and invites the zealous co-operation and aid of all who are interested in the sufferings of humanity. Its healing power has been successfully exhibited in hospitals and dispensaries in Europe and America, and has now been displayed also in a local habitation in this Metropolis of the distant East. The little institution whose title heads this Report, though following only at a humble dis-

tance its great co-temporaries of more favoured lands, has already been the means of considerable benefit to the sick poor of Calcutta; it is therefore both for the satisfaction of its subscribers and friends, and to invite public attention to its claims, that this first Report of its progress is now presented.

Shortly after the publication of the prospectus of the Homœopathic Hospital, Dr. Tonnere succeeded after some difficulty, in securing a small native house for its location in *Burtollah*, at the East side of the Chitpore Road. Ten beds were made up for the reception of in-door patients and a brahmin cook provided for the convenient preparation of their food. The hospital was opened on the seventeenth of March. During the first twelve days the attendance was most discouraging. Not one in-door patient applied for admission; and the out-door patients were very few. But it could scarcely have been otherwise. Totally unknown to the native community, it could not be expected that those, to whom the numerous dispensaries and well furnished hospitals of Calcutta are so freely open, should at once place implicit reliance upon a system of medicine which was entirely new to them. Dr. Tonnerre however continued his attendance; the few patients that were treated reported to others the benefit they experienced, and encouraged by the cures which had been performed, native patients began steadily to increase in number and to visit the hospital from every quarter. During the past six months the ten beds of the hospital have been continually occupied; and the average attendance of out-door patients has been from one hundred to a hundred and twenty every day.

The total number of in-door cases treated during the six months which have elapsed since the Hospital was commenced, amounts to 85, of which 72 have been dismissed cured ; and seven remain under treatment. In the dispensary, during the same period, the cases have amounted to 1291 ; of which 996 have been dismissed cured. The result of 214 cases is unknown ; the patients having, after a certain number of attendances, disappeared, while under treatment. This circumstance will occasion no surprise to those who know how ready the poorer natives of this country are to go from one doctor to another, while a cure is going on ; and also to receive benefits without acknowledging them. The total number treated may appear somewhat small to those accustomed to the statistics of other hospitals, but the system of registry in the dispensary will partly explain it. When a patient presents himself for the first time he is furnished with a ticket in the following form :

|                                       |  |
|---------------------------------------|--|
| CALCUTTA NATIVE HOMŒOPATHIC HOSPITAL. |  |
| <hr/>                                 |  |
| No.                                   |  |
| Name,                                 |  |
| Caste,                                |  |
| Residence,                            |  |
| Disease,                              |  |

As often as he returns for advice and Medicine, he is considered as one patient only and his case as a single case. All the cases both of the in-door and out-door patients were carefully recorded every day with their distinctive symptoms ; and the names, residence

and caste of the patients will be found in the register of the institution. Many of these patients are well known to the Calcutta Dispensaries.

No Surgical cases of any importance have been treated in the Hospital; this has been owing to the want of suitable accommodation. It was at one time hoped that a large and convenient house would have been placed at Dr. Tonnerre's disposal, by a native gentleman in Calcutta, for the use of the Hospital; and he had purposed to perform operations, combining the advantages of Mesmeric treatment with those of the Homœopathic System of Medicine. Recent circumstances however seem to render this expectation improbable, and it is feared that owing to the lack of funds, the *Hospital* must be shortly closed altogether. The dispensary, will, if possible, be maintained ashitherto.

At present Dr. Tonnerre has been able to visit the Hospital for only two hours a day. For the past four months he has been aided by the services of a Native Assistant, a former pupil of the Medical College and now practising as a native physician in Calcutta. The services of the Baboo, like those of Dr. Tonnerre, have been rendered gratuitously and deserve the warmest thanks of the Subscribers. Should the funds enable Dr. Tonnerre to engage the entire services of a resident assistant, who can attend patients both day and night, the number of cases treated in the Institution, will doubtless considerably increase.

The Appendix to this Report will shew the class of cases which have been principally treated in the Homœopathic Hospital. Besides numerous instances of the various-Cutaneous diseases so common among the poorer

natives. The following may be specified; as shewing the usefulness of the Hospital to the community in general.

|                           |              |              |
|---------------------------|--------------|--------------|
| Asthma, .....             | 22           | Cases cured. |
| Ophthalmia, .....         | 14           |              |
| Spleen disease, .....     | 18           |              |
| Chronic Bronchitis, ..... | 13           |              |
| Chronic Diarrhœa, .....   | 9            |              |
| Dysentery, .....          | 10           |              |
| Chronic Dysentery, .....  | 18           |              |
| Dyspepsia, .....          | 38           |              |
| Fever, .....              | 53           |              |
| Rheumatism, .....         | 61           |              |
| Syphilis, .....           | 63           |              |
| Gonorrhœa, .....          | 20           |              |
| Cholera, .....            | 18 out of 21 |              |

Dr. Tonnerre has peculiar pleasure in calling attention to several cases of *Leprosy* which he has treated on the Homœopathic principle. Of the *Lepra Vulgaris*, thirteen cases have been admitted into the Dispensary, of which six have been cured, and four are still under treatment. Of the *Lepra Tuberculosa*, fifteen cases have been admitted; of which three were cured and eight remain under treatment.

The *Lepra alba* (white Leprosy) has long been one of the stumbling blocks of the Medical Faculty: but even this disease has in a few instances in the Calcutta Dispensary, yielded to Homœopathic Medicine. No less than *thirty six* cases have been entered, of these *two* have been dismissed *cured*, and sixteen are still being treated. The remaining eighteen patients discontinued their attendance while the cure was incomplete and have not stated the result of their treatment: it was known however that they had derived great relief from it. The gradual change in the colour of the white spots on the

skin ; the re-establishment of perspiration in the affected parts, and the general improvement in the health of the patients, all showed that the disease was decidedly attacked by the medicine and was beginning to yield before it. It cannot however be wondered at, that the long course of treatment required by this insidious and obstinate disease, should weary the native patients ere it has been completed, seeing that fickleness and impatience form such prominent elements in their national character. It is hoped that more decided results than the few mentioned, may be reported at a subsequent period.

These results of the Homœopathic Hospital and Dispensary may fearlessly challenge the attention of all who feel for the sufferings of their fellow men, especially among the poor. A system of medicine which from the peculiar principle on which it is based, and from the searching character of its medicine effects a radical cure of chronic disease and delivers the patient from sufferings which prostrate him again and again, has special claims upon all the friends of humanity. Is it too much to ask those Europeans who have seen the working of this system, who have experienced its benefits in themselves and in their families, to step forward to the aid of a little Institution which offers the same benefits gratuitously to the poor ? Is it too much to ask that Native Gentlemen, with whom charity is considered the highest proof of religious duty, to aid their numerous suffering fellow countrymen ? Is it too much to hope that, in spite of that opposition which the Faculty has so frequently offered to Medical innovations, however useful they have ultimately proved, that the Homœopathic system,



allowed fair play in this metropolis of British India, will triumph over the obstacles which meet it, and amidst the numerous and painful diseases which afflict the country, be proved under the blessing of the Almighty, to be the preserver of life and the restorer of health.

*Calcutta, October 1st 1852.*

~~as~~ *Dr. Tonnerre intended to have circulated with this Report some Lithographs of the different cases of Leprosy cured in the Hospital, but the enormous sum of 1,000 Rs. which was asked for that purpose deterred him from carrying out his original intention.*

# APPENDIX.

## MEDICAL OFFICER'S REPORT.

| DISEASES.   | OUT-PATIENTS.    |        |                 |       |                  |        | IN-PATIENTS.     |        |       |                      |                  |        |
|-------------|------------------|--------|-----------------|-------|------------------|--------|------------------|--------|-------|----------------------|------------------|--------|
|             | Number admitted. | Cured. | Result unknown. | Died. | Under Treatment. | Total. | Number admitted. | Cured. | Died. | Discharged Believed. | Under Treatment. | Total. |
| Abscess     | 10               | 9      | 1               | ...   | ...              | 10     | ...              | ...    | ...   | ...                  | ...              | ...    |
| Acne        | 3                | 2      | 1               | ...   | ...              | 3      | ...              | ...    | ...   | ...                  | ...              | ...    |
| Amaurosis   | 4                | 2      | 2               | ...   | ...              | 4      | ...              | ...    | ...   | ...                  | ...              | ...    |
| Amenorrhœa  | 3                | 2      | 1               | ...   | ...              | 3      | ...              | ...    | ...   | ...                  | ...              | ...    |
| Anasarca    | 1                | 1      | ...             | ...   | ...              | 1      | 3                | 1      | 1     | ...                  | 1                | 3      |
| Angina      | 4                | 2      | ...             | ...   | ...              | 4      | ...              | ...    | ...   | ...                  | ...              | ...    |
| Aphonia     | ...              | ...    | ...             | ...   | ...              | ...    | ...              | ...    | ...   | ...                  | ...              | ...    |
| Aphthæ      | ...              | 6      | ...             | ...   | ...              | 6      | ...              | ...    | ...   | ...                  | ...              | ...    |
| Ascites     | 3                | 1      | 2               | ...   | ...              | 3      | ...              | ...    | ...   | ...                  | ...              | ...    |
| Asthma      | 35               | 22     | 8               | ...   | 5                | 35     | ...              | ...    | ...   | ...                  | ...              | ...    |
| Atrophia    | 3                | 2      | ...             | 1     | ...              | 3      | ...              | ...    | ...   | ...                  | ...              | ...    |
| Blennorrhœa | 2                | 2      | ...             | ...   | ...              | 2      | ...              | ...    | ...   | ...                  | ...              | ...    |
| Bronchitis  | 8                | 8      | ...             | ...   | ...              | 8      | 3                | 3      | ...   | ...                  | ...              | 3      |

| DISEASES.          | OUT-PATIENTS.       |        |                    |       |                     |        | IN-PATIENTS.        |        |       |                         |                     |        |
|--------------------|---------------------|--------|--------------------|-------|---------------------|--------|---------------------|--------|-------|-------------------------|---------------------|--------|
|                    | Number<br>admitted. | Cured. | Result<br>unknown. | Died. | Under<br>Treatment. | Total. | Number<br>admitted. | Cured. | Died. | Discharged<br>Relieved. | Under<br>Treatment. | Total. |
| Bronchitis Chronic | 16                  | 13     | 1                  | ..    | 2                   | 16     | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Bronchocele        | 1                   | 1      | ..                 | ..    | ..                  | 1      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Burn ...           | 5                   | 5      | ..                 | ..    | ..                  | 5      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Cachexia           | 9                   | 5      | 1                  | ..    | ..                  | 9      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Cancer ...         | 2                   | 1      | 1                  | ..    | ..                  | 2      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Caries ...         | 3                   | 3      | ..                 | ..    | ..                  | 3      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Catarrh ...        | 25                  | 20     | 5                  | ..    | ..                  | 25     | 1                   | ..     | ..    | 1                       | ..                  | 1      |
| Cancerous tumour   | ..                  | ..     | ..                 | ..    | ..                  | ..     | 1                   | ..     | ..    | 1                       | ..                  | 1      |
| Cataract           | 11                  | 11     | ..                 | ..    | ..                  | 11     | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Cephalalgia        | 3                   | 2      | 1                  | ..    | ..                  | 3      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Chlorosis          | 15                  | 13     | 1                  | 2     | ..                  | 15     | 9                   | 5      | 1     | ..                      | ..                  | 6      |
| Cholera ...        | 2                   | 1      | 1                  | ..    | ..                  | 2      | 1                   | 1      | ..    | ..                      | ..                  | 1      |
| Chorea ...         | 6                   | 6      | ..                 | ..    | ..                  | 6      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Colic ...          | 2                   | 2      | ..                 | ..    | ..                  | 2      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Concussion         | 10                  | 8      | 2                  | ..    | ..                  | 10     | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Constipation       | 9                   | 8      | ..                 | ..    | ..                  | 9      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Contracted Tendons | 3                   | 3      | ..                 | ..    | ..                  | 3      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Contuse Wounds     | 6                   | 6      | ..                 | ..    | ..                  | 6      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Coryza, Chronic    | 3                   | 2      | 1                  | ..    | ..                  | 3      | ..                  | ..     | ..    | ..                      | ..                  | ..     |

| DISEASES.         | OUT-PATIENTS.       |        |                    |       |                     |        | IN-PATIENTS.        |        |       |                          |                     |        |
|-------------------|---------------------|--------|--------------------|-------|---------------------|--------|---------------------|--------|-------|--------------------------|---------------------|--------|
|                   | Number<br>admitted. | Cured. | Result<br>unknown. | Died. | Under<br>Treatment. | Total. | Number<br>admitted. | Cured. | Died. | Discharged.<br>Relieved. | Under<br>Treatment. | Total. |
| Cough ...         | 25                  | 18     | 7                  | ...   | ...                 | 25     | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| Debility ...      | 6                   | 3      | 3                  | ...   | ...                 | 6      | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| Diabetes ...      | 3                   | 1      | 2                  | ...   | ...                 | 3      | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| Diarrhoea ...     | 6                   | 6      | ...                | ...   | ...                 | 6      | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| " Chronic         | 12                  | 9      | 3                  | ...   | ...                 | 12     | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| Dysentery ...     | 10                  | 10     | ...                | ...   | ...                 | 10     | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| " Chronic         | 21                  | 18     | 3                  | ...   | ...                 | 21     | ...                 | 1      | ...   | ...                      | ...                 | ...    |
| Dysmenorrhoea ... | 2                   | 2      | ...                | ...   | ...                 | 2      | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| Dyspepsia. ...    | 45                  | 38     | 7                  | ...   | ...                 | 45     | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| Dysuria ...       | 5                   | 3      | 2                  | ...   | ...                 | 5      | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| Elephantiasis ... | 3                   | 1      | 2                  | ...   | ...                 | 3      | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| Epilepsy ...      | 7                   | 4      | 3                  | ...   | ...                 | 7      | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| Epistaxis ...     | 3                   | 3      | ...                | ...   | ...                 | 3      | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| Erysipelas ...    | 4                   | 4      | ...                | ...   | ...                 | 4      | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| Fever ...         | 84                  | 30     | 14                 | ...   | ...                 | 34     | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| " Continued       | 8                   | 8      | ...                | ...   | ...                 | 8      | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| " Gastric         | 3                   | 3      | ...                | ...   | ...                 | 3      | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| " Intermittent    | 10                  | 10     | ...                | ...   | ...                 | 10     | ...                 | ...    | ...   | ...                      | ...                 | ...    |
| " Remittent       | 2                   | 2      | ...                | ...   | ...                 | 2      | ...                 | ...    | ...   | ...                      | ...                 | ...    |

| DISEASES.     | OUT-PATIENTS.       |        |                    |       |                     | IN-PATIENTS. |                     |        |       |                         |                     |        |
|---------------|---------------------|--------|--------------------|-------|---------------------|--------------|---------------------|--------|-------|-------------------------|---------------------|--------|
|               | Number<br>admitted. | Cured. | Result<br>unknown. | Died. | Under<br>Treatment. | Total.       | Number<br>admitted. | Cured. | Died. | Discharged<br>Relieved. | Under<br>Treatment. | Total. |
| Fistula       | 3                   | 3      | ..                 | ..    | ..                  | 3            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| " in ano      | 2                   | 2      | ..                 | ..    | ..                  | 2            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| " Urinaria    | 2                   | 2      | ..                 | ..    | ..                  | 2            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Fongus        | 1                   | 1      | ..                 | ..    | ..                  | 1            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Furunculus    | 15                  | 15     | ..                 | ..    | ..                  | 15           | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Ganglion      | 6                   | 3      | 2                  | ..    | 1                   | 6            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Gangrene      | 2                   | 2      | ..                 | ..    | ..                  | 2            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Gastralgia    | 5                   | 5      | ..                 | ..    | ..                  | 5            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Gastritis     | 8                   | 6      | 2                  | ..    | ..                  | 8            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| " Chronic     | 6                   | 4      | 2                  | ..    | ..                  | 6            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Gastrorrhoea  | 4                   | 4      | ..                 | ..    | ..                  | 4            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Gonorrhoea    | 26                  | 20     | 6                  | ..    | ..                  | 26           | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Hematemesis   | 2                   | 1      | 1                  | ..    | ..                  | 2            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Hematuria     | 2                   | 2      | ..                 | ..    | ..                  | 2            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Hemorrhoids   | 14                  | 12     | 1                  | ..    | 1                   | 14           | 2                   | 2      | ..    | ..                      | ..                  | 2      |
| Hemoptysis    | 7                   | 5      | 2                  | ..    | ..                  | 7            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Helminthiasis | 6                   | 6      | ..                 | ..    | ..                  | 6            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Hemeralopia   | 2                   | 1      | 1                  | ..    | ..                  | 2            | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Hemicrania    | 5                   | 4      | ..                 | ..    | 1                   | 5            | ..                  | ..     | ..    | ..                      | ..                  | ..     |

| DISEASES.               | OUT-PATIENTS.    |        |                 |       |                  | IN-PATIENTS. |                  |        |       |                      |
|-------------------------|------------------|--------|-----------------|-------|------------------|--------------|------------------|--------|-------|----------------------|
|                         | Number admitted. | Cured. | Result unknown. | Died. | Under Treatment. | Total.       | Number admitted. | Cured. | Died. | Discharged Relieved. |
| Hemiplegia ...          | 1                | 1      | ...             | ...   | ...              | 1            | 1                | 1      | ...   | ...                  |
| Hepatic Congestion ...  | 6                | 6      | ...             | ...   | ...              | 6            | ...              | ...    | ...   | ...                  |
| Hepatitis ...           | 4                | 4      | ...             | ...   | ...              | 4            | ...              | ...    | ...   | ...                  |
| " Chronic               | 5                | 5      | 1               | ...   | ...              | 4            | ...              | ...    | ...   | ...                  |
| Herpes ...              | 3                | 2      | 1               | ...   | ...              | 3            | ...              | ...    | ...   | ...                  |
| Heaping Cough ...       | 2                | 2      | ...             | ...   | ...              | 2            | ...              | ...    | ...   | ...                  |
| Hypochondria ...        | 3                | 1      | 2               | ...   | ...              | 3            | ...              | ...    | ...   | ...                  |
| Hysteria ...            | 2                | 2      | ...             | ...   | ...              | 2            | ...              | ...    | ...   | ...                  |
| Impetigo ...            | 6                | 6      | ...             | ...   | ...              | 6            | ...              | ...    | ...   | ...                  |
| Induration of the liver | 4                | 2      | 2               | ...   | ...              | 4            | ...              | ...    | ...   | ...                  |
| Influenza ...           | 15               | 15     | ...             | ...   | ...              | 15           | ...              | ...    | ...   | ...                  |
| Jaundice ...            | 3                | 3      | ...             | ...   | ...              | 3            | ...              | ...    | ...   | ...                  |
| Lepra ...               | ...              | ...    | ...             | ...   | ...              | ...          | 2                | 1      | ...   | 1                    |
| Lepra alba ...          | 36               | 2      | 18              | ...   | 16               | 36           | ...              | ...    | ...   | ...                  |
| " Tuberculosa           | 15               | 3      | 4               | ...   | 8                | 15           | ...              | ...    | ...   | ...                  |
| " Vulgaris              | 15               | 6      | 3               | ...   | 4                | 13           | ...              | ...    | ...   | ...                  |
| Leucorrhœa ...          | 5                | 3      | 1               | ...   | 1                | 5            | 1                | 1      | ...   | ...                  |
| Lichen ...              | 7                | 4      | 2               | ...   | 1                | 7            | ...              | ...    | ...   | ...                  |
| Lumbago ...             | 3                | 3      | ...             | ...   | ...              | 3            | ...              | ...    | ...   | ...                  |

| DISEASES.             | OUT-PATIENTS.       |        |                    |       |                     |        | IN-PATIENTS.        |        |       |                         |                     |        |
|-----------------------|---------------------|--------|--------------------|-------|---------------------|--------|---------------------|--------|-------|-------------------------|---------------------|--------|
|                       | Number<br>admitted. | Cured. | Result<br>unknown. | Died. | Under<br>Treatment. | Total. | Number<br>admitted. | Cured. | Died. | Discharged<br>Relieved. | Under<br>Treatment. | Total. |
| Mania ...             | 3                   | 2      | 1                  | ...   | ...                 | 3      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Melancholia ...       | 1                   | 1      | ...                | ...   | ...                 | 1      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Menorrhagia ...       | 6                   | 4      | 2                  | ...   | ...                 | 6      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Mentagra ...          | 1                   | 1      | ...                | ...   | ...                 | 1      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Mercury disease ...   | 18                  | 13     | 2                  | ...   | 3                   | 18     | 1                   | 1      | ...   | ...                     | ...                 | 1      |
| Metritis ...          | 4                   | 3      | 1                  | ...   | ...                 | 4      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Necrosis ...          | 3                   | 3      | ...                | ...   | ...                 | 3      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Nervous affection ... | 8                   | 8      | ...                | ...   | ...                 | 8      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Neuralgia ...         | 6                   | 5      | 1                  | ...   | ...                 | 6      | 1                   | 1      | ...   | ...                     | ...                 | 1      |
| Nyctalopia ...        | 2                   | 1      | 1                  | ...   | ...                 | 2      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Œdema ...             | 6                   | 4      | 2                  | ...   | ...                 | 6      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Opacity of cornea ... | 3                   | 1      | 2                  | ...   | ...                 | 3      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Ophthalmia ...        | 15                  | 14     | 1                  | ...   | ...                 | 15     | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Otitis ...            | 4                   | 4      | ...                | ...   | ...                 | 4      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Otorrhœa ...          | 10                  | 8      | 2                  | ...   | ...                 | 10     | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Ovarian disease ...   | 2                   | 1      | 1                  | ...   | ...                 | 2      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Parotitis ...         | 3                   | 2      | ...                | ...   | ...                 | 3      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Paraplegia ...        | ...                 | ...    | ...                | ...   | ...                 | ...    | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Pemphigus ...         | 2                   | 2      | ...                | ...   | ...                 | 2      | 1                   | ...    | ...   | ...                     | 1                   | 1      |

| DISEASES.             | OUT-PATIENTS.       |        |                    |       |                     |        | IN-PATIENTS.        |        |       |                         |                     |        |
|-----------------------|---------------------|--------|--------------------|-------|---------------------|--------|---------------------|--------|-------|-------------------------|---------------------|--------|
|                       | Number<br>admitted. | Cured. | Result<br>unknown. | Died. | Under<br>Treatment. | Total. | Number<br>admitted. | Cured. | Died. | Discharged<br>Believed. | Under<br>Treatment. | Total. |
| Phthisis ...          | 6                   | 2      | 4                  | ..    | ..                  | 6      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Photophobia ..        | 3                   | 2      | 1                  | ..    | ..                  | 3      | 1                   | 1      | ..    | ..                      | ..                  | 1      |
| Phlegmon ..           | ..                  | ..     | ..                 | ..    | ..                  | ..     | 1                   | 1      | ..    | ..                      | ..                  | 1      |
| Phymosis ..           | ..                  | ..     | ..                 | ..    | ..                  | ..     | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Pleuritis ..          | 2                   | 2      | 2                  | ..    | ..                  | 2      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Pleurodynia ..        | 4                   | 4      | ..                 | ..    | ..                  | 4      | ..                  | 1      | ..    | ..                      | ..                  | 1      |
| Pneumonia ..          | ..                  | ..     | ..                 | ..    | ..                  | ..     | 1                   | 1      | ..    | ..                      | ..                  | 1      |
| Porriço ...           | 3                   | 2      | 1                  | ..    | ..                  | 2      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Prurigo ...           | 12                  | 8      | 4                  | ..    | ..                  | 12     | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Psoriasis Palmaris .. | 4                   | 4      | ..                 | ..    | ..                  | 4      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| " Squammosus ..       | 8                   | 6      | 2                  | ..    | ..                  | 8      | 6                   | 4      | ..    | ..                      | 2                   | 6      |
| " Vulgaris ..         | 53                  | 42     | 6                  | ..    | 5                   | 53     | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Pulmonary Disease ..  | 6                   | 2      | 4                  | ..    | ..                  | 6      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Pyrosis ...           | 8                   | 6      | 2                  | ..    | ..                  | 8      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Ranula ...            | 1                   | 1      | ..                 | ..    | ..                  | 1      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Rhagades ..           | 6                   | 5      | ..                 | ..    | ..                  | 6      | ..                  | ..     | ..    | ..                      | ..                  | ..     |
| Rheumatism ..         | 24                  | 18     | 4                  | ..    | 1                   | 24     | 3                   | 3      | ..    | ..                      | ..                  | 3      |
| " Chronic ..          | 50                  | 43     | 7                  | ..    | 9                   | 59     | 10                  | 8      | ..    | ..                      | 2                   | 10     |
| Ring Worm ...         | 5                   | 5      | ..                 | ..    | ..                  | 5      | ..                  | ..     | ..    | ..                      | ..                  | ..     |



| DISEASES.            | OUT-PATIENTS.    |        |                 |       |                  |        | IN-PATIENTS.     |        |       |             |                  |        |
|----------------------|------------------|--------|-----------------|-------|------------------|--------|------------------|--------|-------|-------------|------------------|--------|
|                      | Number admitted. | Cured. | Result unknown. | Died. | Under Treatment. | Total. | Number admitted. | Cured. | Died. | Discharged. | Under Treatment. | Total. |
| Scabies ...          | 15               | 12     | 3               | ...   | ...              | 15     | ...              | ...    | ...   | ...         | ...              | ...    |
| Sciatica ...         | 2                | 2      | ...             | ...   | ...              | 2      | ...              | ...    | ...   | ...         | ...              | ...    |
| Serofula ...         | 8                | 6      | 2               | ...   | ...              | 8      | 1                | 1      | ...   | ...         | ...              | 1      |
| Serofulous Swelling  | 4                | 4      | ...             | ...   | ...              | 4      | ...              | ...    | ...   | ...         | ...              | ...    |
| Sores ...            | 25               | 21     | 4               | ...   | ...              | 25     | ...              | ...    | ...   | ...         | ...              | ...    |
| Spermatorrhœa ...    | 1                | 1      | ...             | ...   | ...              | 1      | ...              | ...    | ...   | ...         | ...              | ...    |
| Splenitis            | 8                | 6      | 2               | ...   | ...              | 8      | ...              | ...    | ...   | ...         | ...              | ...    |
| " Chronic            | 13               | 12     | 1               | ...   | ...              | 13     | ...              | ...    | ...   | ...         | ...              | ...    |
| Sprains ...          | 7                | 7      | ...             | ...   | ...              | 7      | ...              | ...    | ...   | ...         | ...              | ...    |
| Stomacac             | 3                | 3      | ...             | ...   | ...              | 3      | ...              | ...    | ...   | ...         | ...              | ...    |
| Stomatitis           | 8                | 8      | ...             | ...   | ...              | 8      | ...              | ...    | ...   | ...         | ...              | ...    |
| Stricture of Urethra | 3                | 1      | 2               | ...   | ...              | 3      | ...              | ...    | ...   | ...         | ...              | ...    |
| Syphilitic Bubo ...  | 4                | 4      | ...             | ...   | ...              | 4      | 2                | 2      | ...   | ...         | ...              | 2      |
| Syphilis Primaria... | 30               | 24     | 6               | ...   | ...              | 30     | 12               | 12     | ...   | ...         | ...              | ...    |
| " Consecutiva        | 51               | 39     | 6               | ...   | ...              | 51     | 3                | 3      | ...   | ...         | ...              | 3      |
| Syphilitic Sores ... | ...              | ...    | ...             | ...   | ...              | ...    | ...              | ...    | ...   | ...         | ...              | ...    |
| Tonsillitis          | 2                | 2      | ...             | ...   | ...              | 2      | ...              | ...    | ...   | ...         | ...              | ...    |
| Tumour ...           | 6                | 4      | 1               | ...   | ...              | 6      | ...              | ...    | ...   | ...         | ...              | ...    |
| Ulcers, ...          | 19               | 14     | 3               | ...   | ...              | 19     | 5                | 5      | ...   | ...         | ...              | 5      |

| DISEASES.                  | OUT-PATIENTS.       |        |                    |       |                     |        | IN-PATIENTS.        |        |       |                         |                     |        |
|----------------------------|---------------------|--------|--------------------|-------|---------------------|--------|---------------------|--------|-------|-------------------------|---------------------|--------|
|                            | Number<br>admitted. | Cured. | Result<br>unknown. | Died. | Under<br>Treatment. | Total. | Number<br>admitted. | Cured. | Died. | Discharged<br>Believed. | Under<br>Treatment. | Total. |
| Urinary Disease ... ..     | 2                   | 2      | ...                | ...   | ...                 | 2      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Uterine Disease ... ..     | 2                   | 2      | 1                  | ...   | ...                 | 3      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Urticaria ... ..           | 3                   | 3      | ...                | ...   | ...                 | 3      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Vertigo ... ..             | 3                   | 2      | 1                  | ...   | ...                 | 3      | ...                 | ...    | ...   | ...                     | ...                 | ...    |
| Disease Unspecified ... .. | 106                 | 85     | 6                  | ...   | 15                  | 10     | ...                 | ...    | ...   | ...                     | ...                 | ...    |
|                            | 1291                | 997    | 204                | 3     | 88                  | 1291   | 85                  | 72     | 3     | 3                       | 7                   | 85     |

(Signed) CH. FABRE TONNERRE, M. D.

Superintendent.

Feb. to J

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L'Assistance

Hôpital de la

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## SECRETARY'S REPORT,

*Expenses of the Native Homœopathic Hospital from  
1st March to 30th September 1852.*

|                                                                                      | Rs.   | As. | P. |
|--------------------------------------------------------------------------------------|-------|-----|----|
| House Rent,.....                                                                     | 343   | 12  | 0  |
| Servant Wages,.....                                                                  | 409   | 0   | 0  |
| Furniture,.....                                                                      | 80    | 7   | 0  |
| Books and Stationary,.....                                                           | 47    | 3   | 0  |
| Country Diet,.....                                                                   | 115   | 4   | 6  |
| Dispensary Expenses Corks, Bottles, Oil,<br>Lint Create, Spirits of Wine, &c. &c.... | 142   | 2   | 3  |
| Establishment, Washerman, Oil for burn-<br>ing, Wood, Cloth, Pans, Jars, &c. &c....  | 145   | 12  | 9  |
| Sundry expenses,.....                                                                | 30    | 0   | 0  |
|                                                                                      | <hr/> |     |    |
| Total,.....                                                                          | 1313  | 10  | 3  |
| Amount Subscribed,.....                                                              | 2118  | 0   | 0  |
| Amount received,.....                                                                | 1823  | 12  | 0  |
| Expenses,.....                                                                       | 1313  | 10  | 2  |
|                                                                                      | <hr/> |     |    |
| Balance in the Oriental Bank,.....                                                   | 510   | 1   | 9  |

*(Signed)*

SHAM CHUND MITTER,

KALIDASS DUTT,

*Hony. Secretaries.*

# चरकसंहिता ।

सूत्रस्थानम् ।

तृतीयोऽध्यायः ।

अथात आरग्वधीयमध्यायं व्याख्यास्यामः ।

इति ह स्माह भगवानात्रेयः ।

आरग्वधः सैड्गलः करञ्जोवासा गुडूची मदनं हरिद्रे ।

आहः सुराहः खदिरो धवश्च निम्बो विडङ्गः करवीरकश्च ॥ १ ॥

अन्विच भौज्जोल्गुनः शिरीषः सलोमसोगुग्गुलुकृष्णगन्धाः ।

फणिष्णकोवत्सकसप्तपर्णौ पीलूनि कुष्ठं सुमनःप्रवालाः ॥ २ ॥

## CHARAKA SAṆHITA.

### CHAP. 3. A'RAGVADHĪ'YA ADHYA'YA.

And now I shall expound the Chap. called A'ragvadhīya, thus said the venerable A'treya.

1. A'ragvadhā (मौदान, cassia fistula), odagaja (दादयर्दन, cassia alata, or छाङ्गुला, cassia tora), karanja (उन्नकरञ्ज, galedupa arborea), vāsā (वांसक, insticia gendarussa, adhatoda vāsica, acanthaceæ), guḍūchī (गुडूच, cocculus cordifolius, or menispermum cordifolium v. glabrum), madana, turmeric, wood turmeric,

S'ryahva, (मदन कर्क, pinus longifolia), surāhva (देवदारु, pinus devdāru), catechu, dhava (धव, grisea tomentosa), nimba (निम्ब, melia azadiracta), viḍaṅga, karavīra (खेडकरवी, nerium odoratum),

2. Granthi (गौटिगान), bhaurjja (दूर्ध्व पात), garlic, sīrisha (शोका सिरिषा), salomaśa (mahāmeda), guggulu (गुग्गुलु), krish-magandha (कृष्णिम),

वचा वरेणुस्त्रिभूता निकुम्भोभङ्गातकं गैरिकमञ्जनम् ।

मनःशिलाते मृदधूम एता काशीसलोभार्जुनमुससर्ज्वाः ॥ ३ ॥

इत्यर्धं रूपैर्विचिताः षडेते गोपितपीताः पुनरेव पिष्टाः ।

सिद्धाः परं सर्वपतैस्तनुक्ताश्चूर्णप्रदेहा भिषजा प्रयोज्याः ॥ ४ ॥

कुष्ठानि क्षुद्राणि नवक्षिलासं सुरेन्द्रकुतं किटिमं सदद्गु ।

भगन्दरार्शीत्यपचीं सपामां हन्यः प्रवृक्तास्त्वचिरान्तराणाम् ॥ ५ ॥

Phanijihaka (तुलसीविशेष, खूदपत्र तुलसी), vatsaka (कूड़ती), saptaparna (छातिम, *alstonia scholaris*), plu (*careya arborea*, or *selvadora persica*), kushtha (कूड़), young shoots of sumana (जाति-पत्र, great flowered jasmine),

3. Vachá, hareṇu (रगूक), trivritá, nikumbha (हाकूई, दली, *croton polyandra*, *euphorbiaceæ*), bhallátaka (तेला, *anacardium*), gairika (गिरिगोली, red earth), anjana (रसज्ज्वर, sulphuret of antimony),

Manahsila (red arsenic), ala (हरितान, yellow arsenic), grihadhúma (धूम, soot, house-smoke), éś (एनाच, cardamoms), kásisa (हिरकण, sulphate of iron), lodhra (लोध्र, *symplocos racemosa*), Arjuna (*pentaptra arjuna*), musta मूत्रा, *cyperus rotunda*), sarjja (धुन, resin of sála).

4. The drugs under each half sloka (pounded and) soaked in cow-bile and pounded again, and then made into a paste with mustard oil, or used simply as powder, form excellent specifics, (in the following diseases) :—

5. They rapidly cure (even) difficult leprosy, recent leucoderma, alopecia (baldness), kitima (a species of skin disease, according to Charaka, black, hard, and dry eruptions) herpes, fistula in ano, piles, apachi (scrofulous enlargement of glands), pama (a kind of skin disease consisting of whitish, reddish, or blackish small pimples with itching.)

कुष्ठं हरिद्रे सुरसं पटोलं निम्बाश्वगन्धे सुरदाक्षिणू ।  
 ससर्पपं तुम्बुधान्यवन्धं चण्डाच्च चूर्णानि समानि कुर्यात् ॥ ६ ॥  
 तैसाकचुक्तैः प्रथमं शरीरं तैलाक्तमुद्धर्त्तयितुं यतेत ।  
 तेनास्य कण्डूः पिङ्काः सकोठाः कुष्ठानि शोफाश्च शमं व्रजन्ति ॥ ७ ॥  
 कुष्ठान्तासङ्गकटङ्कटेरीकाशीसकम्पिल्लकमुस्तलोध्रम् ।  
 सौगन्धिकं सर्जरसोविडङ्गं मनःशिलाते करवीरकश्च ॥ ८ ॥  
 तैलाक्तगात्रस्य क्षतानि चूर्णान्येतानि दद्याद्वचूर्णनार्थम् ।  
 दद्रुः सकण्डूः किटिमानि पामा विचर्चिका चैव तथैति  
 शान्तिम् ॥ ९ ॥

6. Kustha (कुष्ठ, *costus speciosus*), turmeric, wood turmeric, surasa (तुलसी, holy basil), patola (पल्लव, *tricosanthis dioica*), nimba, ashvagandha (*physalis flexuosa*), suradāru (देवदारु) *śigru*, (शङ्खिन), mustard (white), tumburn dhanya (धन, coriander), vanya (वैकुण्ठगुच्छ, केशुरगुच्छ) *cyperus heratychyus communis*, chanda (चोरगुच्छ, चोरगुच्छ, *andropogon aciculatum*),—these taken in equal parts and well reduced to powder,

7. And then mixed with whey should be rubbed over the skin previously anointed with oil. This will relieve itching, pimples, urticaria, the varieties of leprosy, inflammatory swellings.

8. Kustha, amritasaṅgaka (sulphate of copper), tañkateri (wood turmeric), lāsisa (sulphate of iron), kampillaka, musta (गुच्छ, *cyperus rotundus*), lodhra (लोध्र) saugandhika (sulphur,) sarjjarasa (resin of sāla), viḍānga, manahsila (red arsenic), ala (yellow arsenic), karavīraka,

9. These should be well powdered and then sprinkled and rubbed over the skin previously anointed with oil. This will cure psoriasis, itching, kitima, vicharchika (a kind of herpes, itching, blackish ?), pimples with discharge.)



मनःशिलाते मरिचानि तैलमार्कपयः कुष्ठहरः प्रदेहः ।  
 त्वयं विडङ्गं मरिचानि कुष्ठं लोमश्च तद्वत् समनःशिलं स्यात् ॥ १० ॥  
 रसास्त्रनं सप्रपुनाङ्गवीजं वृत्तं कपित्थस्य रसेन लेपः ।  
 करञ्जबीजैर्दण्डं सकुष्ठं गोमूत्रवृत्तञ्च परः प्रदेहः ॥ ११ ॥  
 उभे हरिद्रे कुटजस्य बीजं करञ्जबीजं सुमनःप्रवालाः ।  
 त्वचं समध्यां हयमारकस्य लेपं तिलक्षारवृत्तं विदध्यात् ॥ १२ ॥  
 मनःशिला त्वक् कुटजात् सकुष्ठः सलोमश्च सैर्दण्डः करञ्जः ।  
 ग्रन्थिच भौर्जः करवीरमूलं चूर्णानि साध्यानि तुषोदकेन ॥ १३ ॥

10. Red arsenic, yellow arsenic, round pepper, mustard oil, and milk of arka will form a good ointment for leprosy.

Sulphate of copper, vidanga, round pepper, kushtha, lodhra, red arsenic will form as good an ointment as the former for leprosy.

11. Crude antimony (sulphuret), prapunnara seeds (चाकुन्दा बीजं cassia tora), pounded and made into a paste with the juice of the leaves of kapiṭṭha (करैष्टवन) is good for leprosy.

The seeds of karanja (नाटीकरञ्ज), (the leaves of) eḍagaja (दाद मर्दन), the tubers of kuṣṭha (कूड़) made into a paste with the urine of the cow forms a good application for leprosy.

12. Turmeric and wood turmeric, the seeds of kutaja (हेत्तयव), the seeds of karanja, and the leaves of sumana (जातिपत्र), the bark of haya māraka (करवीर), the alkaline salt from the ashes of the til plant, will form a good application for leprosy.

13, 14. Realgar, the bark of kutaja, kuṣṭha, lomasā, eḍagaja, karanja, granthi, the bark of bhurjja, and the root of karavīra each taken of the weight of a karsha (2 tolas) well powdered and boiled in 8 sheers of fermented gruel (of barley), or the alkaline water of the ashes of palāśa to such a consistency that

पलायनिर्द्वाहरसेन वापि कर्षोद्धृतान्यादकसन्धितेन ।  
दर्ब्बीप्रलेपं प्रवदन्ति लेपमेतत् परं कुष्ठनिस्त्रुदनाय ॥ १४ ॥

पर्णानि पिष्ट्वा चतुरङ्गलस्य तन्त्रेण पलायन्यथ काकमाच्याः ।  
तैलाक्तगात्रस्य नरस्य कुष्ठान्युद्धर्त्तयेदश्वहनम्बदैश्च ॥ १५ ॥

कोलं कुलव्याः सुरदारुसामाषाभयातैलफलानि कुष्ठम् ।  
वचा शताह्वा यवचूर्णमन्त्रमुष्णानि वातामयिनां प्रदेहः ॥ १६ ॥

आनूपमत्यामिषवेषवारैरुष्णैः प्रदेहः पवनापहः स्यात् ।  
स्नेहैश्चतुर्भिर्दशसूत्रमित्रैर्गन्धौषधैर्वानिजित् प्रदेहः ॥ १७ ॥

the whole mixture will adhere to the stirring spoon. This will form a good application for leprosy.

15. The leaves of cassia fistula or of *kāka māchi* (कुड़काभाई, *solanum iudica*) or of *ashvahana* (अश्वहान) made into a paste with whey, rubbed upwards to the skin previously anointed with oil, will cure leprosy.

16. Kola (कूल, *zyzyphus jujuba*), kulattha, suradāru (सुरदारु), *rāsnā* (orchids), *māsha* (माशकभाई, *phaseolus radiatus*), *abhayā* (अहय), oil seeds (mustard or castor seeds &c), *vacha*, *śatāhva* (शतहवा, *anethum sowa*), powdered barley, these all mixed and acidulated (with *kānji*) and warmed, will form a good application for patients with diseases of the wind.

17. The flesh of buffalo (or rhinoceros, tortoise, &c) and of fish, well detached from bone, pounded and warmed, will form a good application for patients with diseases of the wind.

Also the four oils in which are boiled the ten roots and the aromatic drugs (to be mentioned hereafter) will form a good application for such disorders.

तक्रेण युक्तं यवचूर्णमुष्णं सक्षारमर्त्तिं जठरे निह्न्यात् ।

कुष्ठं शताह्वां सवचां यवानाचूर्णं संतैलाक्षमुशन्ति वाते ॥ १८ ॥

उभे शताह्वे मधुकं मधूकं बलां पियालश्च कशेरुकश्च ।

हतं विदारीश्च सितोपलाश्च कुर्यात् प्रदेहं पवने सरक्ते ॥ १९ ॥

रास्ना गुडूची मधुकं बले ह्ये सजीवकं सर्षभकं पयश्च ।

हतश्च सिद्धं मधुशेषयुक्तं रक्तानिलार्त्तिं प्रणुदेत् प्रदेहः ॥ २० ॥

वाते सरक्ते सहतप्रदेहो गोधूमचूर्णं छगलीपयश्च ।

नतोत्पलं चन्दनकुष्ठयुक्तं शिरोरुजायां सहतप्रदेहः ॥ २१ ॥

18. Barley in powder and the alkaline salt from the ashes of barley mixed with whey and warmed, will (when applied over the abdomen) cure pains in the abdomen (colic, gastrodynia, &c ?)

Kuṣṭha, śatahva with vacha and powdered barley acidulated, and mixed with oil is applied in disorders of the wind.

19. Both varieties of śatahva (i. e. anethum sowa and a. panmori), liquorice, madhūka (मधुका, bassia latifolia), balā (बैत बानिगाड़ा, sida rhomboidea), piyāla (पियाला, terminalia tomentosa), kaśeruka (केशर), ghṛita, vidāri (वृद्धिकृष्णा), and lump sugar to be applied in disorders of the blood from wind.

20. Orchids, guduchi (गुडूची), liquorice, two varieties of balā, jīvaka (a plant belonging to *ashtavarga*, not identifiable now), rishabhaka (a plant similar to the preceding) all these mixed and boiled in milk, ghṛita, and wax, may be applied in disorders of the blood from wind.

21. In disorders of the blood from wind, powdered wheat mixed with ghṛita and goat's milk may be used as an application.

प्रपौण्डरीकं सुरदारं कुष्ठं यष्ट्याहमेला कमलोत्पले च ।  
 शिरोरजायां सहतः प्रदेहोलोहैरकापद्मकचोरकैश्च ॥ २२ ॥  
 रास्ना हरिद्रे नलदं यताह्वे हे देवदारुणि सितोत्पलाश्च ।  
 जीवन्तिमूलं सहतं सतैलमालेपनं पार्श्वरजासु कोष्णम् ॥ २३ ॥  
 शैवालपद्मोत्पलवेततुङ्गं प्रपौण्डरीकान्यच्छणाललोध्रम् ।  
 प्रियङ्गुकाले यकचन्दनानि निर्वापयः स्यात् सहतः प्रदेहः ॥ २४ ॥  
 सिता लता वेतसपद्मकानि यष्ट्याहमेन्द्री नलिनानि दूर्वा ।  
 यवासमूलं कुशकाशयोश्च निर्वापयः स्यात् जलमेरका च ॥ २५ ॥

In headache, nata (a plant not identifiable now), utpala (निनमूदि, *nymphœa cerula*), sandal wood (generally the red variety used), kushtha, with ghṛita is used as an application.

22. Prapaundarika (पूण्डरिका, a plant not now identifiable), suradāru (देवदारु), kuṣṭha (कुष्ठ), liquorice, cardamoms (large), lotus, and utpala, loha (अशुक् चन्दन, a species of sandal wood), eraká, (a sort of grass without nodes with emollient and diluent properties), padmaka (पद्मका), choraka (चोरपुष्पी), andropogon aciculatum), these with ghṛita to be applied in headache.

23. Orchids, both species of turmeric, nalada (जटामांसी *valeriana jatamansi*) both varieties of śatāhva, devadāru, candied sugar, root of jivantī with ghṛita and til oil, gently warmed is applied in pleurisy (or pleurodynia).

24. Moss, lotus, utpala, vetra (वेत, *calamus rotang*), tuṅga (तुङ्गा, *retortia tinctoria*), prapaundirika, amrinal (बेनामूल *andropogon muricatus*), lodhra (लोध्र), priyaṅgu (प्रियङ्गु, *panicum italicum*), kāleyake (कालेयक a dark kind of sandal wood कालिकाक), and red sandal wood,—these with ghṛita when applied relieve burning.

25. Sugar, latá (मज्झि, Bengal madder, *rubia manjith*), vetasa (वेत), padma wood, liquorice, aindri (इन्द्रवार्कणी, *brahmi*)

शैलेयमेलागुरुणौ सकुष्ठे चण्डा नतं त्वक् सुरदाह राक्षा ।  
 शीतं निहन्त्यादचिरात् प्रदेहो विषं शिरीषस्तु ससिन्धुवारः ॥ २६ ॥  
 शिरीषलामज्जकहेमलोध्रै स्वग्दोषसंस्वेदहरः प्रघर्षः ।  
 पत्रासुलोधाभयचन्दनानि शरीरदौर्गन्ध्यहरः प्रदेहः ॥ २७ ॥

तत्र श्लोकः

द्रुहात्रिजः सिद्धतमानुवाच द्वात्रिंशतं सिद्धमहर्षिपूज्यः ।  
 चूर्णप्रदेहान् विविधामयघ्नानारग्वधीये जगतां हितार्थम् ॥

श्रीश्री,) lotus, durvā (दूर्वा), panicum and cynodon dactylon), root of yavāsa (यवनिडा, hedysarum alhagi), of kuśa (sacrificial grass कूश, poa cynosuroides), and of kāsa (कृश, saccharum spontaneum), jalam (जल), and erakā relieve burning when used as an application.

26. S'aileyas (a kind of vegetable perfume produced in mountains, शैलेयमूला), cardamoms, aguru (a kind of sandal wood), kuśtha, chaṇḍa (चाण्ड पूष्पी), nata (तगुमूल), tvak (cinnamon), suradāru, orchids, śirisha (acacia sirisa), sindhuvāra (सिन्धुवार), vitex negreado) these applied cold destroy the poison of venomous bites.

27. S'irisha, lāmajjaka (लामज्जक), hema (हेमलोध्र) lodhra, these rubbed destroy diseases of the skin and excessive sweat.

The leaves of cinnamonum cassia (तेजपत्र), amba (अम्बा), lodhra, abhayā (अभयारमूल), red sandal wood, when applied takes off the offensive smell of the skin.

### Summary.

In this chapter, son of Atri, worshipped of great rishis, has described thirtytwo kinds of applications and powders for the good of the world.

## Glennings from the Past.

### THE EARLIEST INTRODUCTORY LECTURES OF THE CALCUTTA MEDICAL COLLEGE.

#### MR. BRAMLEY'S INAUGURAL LECTURE.

*Delivered to the Students of the Medical College, June 1, 1835.*

Mr. Bramley commenced by observing that it was in compliance with custom rather than from any notion of utility, that he gave his first address, the character of what is commonly called in College phrase, an inaugural lecture.

A formal introductory address of the description to which he referred, and on an occasion such as the present, when the students of a new, and he might be allowed to say, a noble national institution were gathered together for the first time, may justly be expected to embrace some notice of the establishment, and the objects contemplated by its founders, an outline of the course of instruction which it was intended to pursue, in teaching the art or science for the cultivation of which the particular lectureship was endowed. Also a general view of the divisions and heads of which it was intended subsequently to treat in detail.

It should, further, naturally include advice and recommendations from the preceptor to his pupils, as to their conduct, and their best course for profiting by his instructions, and so, of acquiring the most thorough and speedy knowledge of that which was to be taught. Nor should the teacher in this place, and on this occasion more particularly, omit some general exposition of the advantages to be derived in after life from that knowledge.

Such Mr. B. observed were the heads which an introductory address at the opening of this College should embrace. But there was one topic, to which it would be especially incumbent on him to allude, but that it may appear somewhat premature in the present provisional condition of the establishment, to do more than briefly advert to it; he meant, the munificent arrangements in preparation by this Government for the solid and permanent advancement of science and education, more particularly as beloved his chair, he referred to the memorable instance of public patronage bestowed on medical education in this country, for which he could not but feel that their especial acknowledgements were justly due to the late illustrious Governor General, who in having sanctioned, or he should rather say, having instituted and organized the Medical College of Calcutta, had supplied a new and efficient stimulus for native youths, towards the acquisition of European science based on a knowledge of the English language, and had afforded large and liberal means to his pupils, of acquiring a profession, which he had little hesitation in predicting would prove a better security for winning to themselves reputation and independence, than any that the present condition of society among them admitted.

This great and liberal act on which he had here but briefly touched, would, he trusted, be duly felt and more amply, or at least, more formally acknowledged hereafter when the fitting moment should arrive.

Nor was it his intention to occupy their time that day, in dwelling upon all the other topics which, as he had already observed, an Introductory Lecture should rightly comprehend.

At present he begged his pupils to understand, that the general and enlarged course of professional instructions, which it was intended to

adopt, in this seminary, could not be regularly commenced on till numerous arrangements, with regard to the erection of suitable buildings and the necessary appliances for teaching shall have been completed. These however, he was happy to inform them, were in progress, and he trusted in the course of a few months, they would find themselves fairly and comfortably established in an institution, which would do no discredit to the age in which they lived or the munificent government which had endowed it, he would, then, have the pleasure of seeing around him, a much larger number of pupils than was there assembled in this infant stage of the College.

It had been thought, however, that as a preliminary step, their time might be immediately employed with advantage, in commencing a course of instructions in the rudimental branches of anatomical science—and it was with this view solely that a limited class had been formed in the first instance. This plan had several advantages—amongst which he would allude to the opportunity it would afford him of gaining some little previous insight into a science which it was assumed to be the intention of his pupils to take up as a profession—of paving the road to future and severer study—and of gradually dispelling those scruples which it was no more than natural they should entertain, from the circumstance of their parentage, and hereditary prejudices in regard to the study of anatomy. The plan further gave to those native gentlemen who had been selected to aid Dr. Goodeve and himself, in their labours, a good opportunity of initiating themselves in the details and methods of teaching—and last, though not least, it afforded, to his colleague and himself, the means of qualifying and perfecting themselves as instructors in the various and difficult branches of Medical Science. For he was not ashamed to acknowledge that he looked to practice and experience in the art of teaching, as his chief aid towards the successful accomplishment of the arduous and important undertaking which he had to conduct.

Having thus briefly alluded to one or two points on which it was not his intention to enlarge for the present, he should now pass on to the more immediate objects of that day's discourse, namely—to give his pupils some idea of the important nature of their studies—to point out the advantages to be derived from close and zealous application—to explain briefly what would be expected from them as students, as well as what would be required from them hereafter, as practitioners in the healing art.

In Lecturing on the Science of Anatomy, in what is generally understood by its regular course, it would, perhaps, behove him to begin, as had been customary among its Professors—with the History of Anatomy—taking a progressive view of its rise and progress in successive ages of civilization, beginning with those able anatomists among the ancients who had made themselves remarkable for their discoveries, and had laboured to prosecute or diffuse the knowledge of their art. But he must not forget, however desirable such information may be in ordinary cases, that he was placed there in a very different situation from that of a Professor in Europe. He must not forget that although surrounded by a number of intelligent youths, his class was composed of Asiatics, and that the medium of instruction was a language which was foreign to them—that their education in the elementary branches of general knowledge was as yet incomplete and imperfect, so that their minds could not yet be supposed prepared to receive with profit the information to which he alluded.

He should not then trouble them for the present, at least, with a history of anatomical science. Because his immediate duty was to keep their minds constantly alive to those subjects, which they were then most capable of retaining in ready recollection, and to confine his discourses to such divisions and departments of the Science, as it was absolutely

necessary they should learn and understand, in order to qualify themselves as useful members of an honorable profession. His chief duty, in short, was simple, and could be explained in a few words. It was to fit them for the active and practical duties of medical men. In endeavouring to accomplish which, they might rely on his discretion not to attempt teaching them too much at first—he hoped he would avoid all imputation of professional vanity, if he considered the Science of Anatomy as one which more immediately than most others concerned the welfare of the human race. Even in the most early ages, before luxury had laid the foundation of many diseases now too prevalent in these days, and even in countries comparatively remote from the influence of civilization, some knowledge of Anatomy, that is, of the structure of the human frame, must have been considered always of primary importance, in as much as self-preservation predominated over every other feeling and impulse, with exceptions too rare to be taken into account.

That science, therefore, which enabled them to afford bodily relief to their afflicted fellow creatures, in cases of imminent danger, might well be considered as one of the first of useful acquirements. The subduing warrior, proud with conquest, would soon sink back to humble dust, but for the assistance of the anatomist, when labouring under a dangerous wound or an oppressed brain—accidents which were incident to all mankind whether in polite or barbarous nations. The magnificent, gorgeous Palace, and the bed of down, would oftentimes be found to afford even more short lived joys than the homely cot, without the succour of medical art.

When it was considered that the study of the medical profession, diligently pursued on scientific principles, enabled them by the removal of disease, to alleviate the greatest afflictions to which the human frame was exposed, they could not but feel a deep sense of the importance of that station, which they were destined to hold in the scale of society; nor could they avoid reflecting how all-important it was to establish the principles of the science on the most solid foundation. It was only by an accurate knowledge of the structure and functions of the human body in a state of health, that they could infer and judge of the nature of disease, and that they could qualify themselves to act upon just and rational principles in its treatment.

If those observations were true (and he had little fear of their meeting with denial) he could not avoid again adverting to the liberality of this Government in having bestowed upon medical education in this country, so large a portion of public patronage. For it might be well known to all his pupils that among the very heads of their own community, where so much opulence was found and where so much extravagance of expenditure prevailed, that a miserable inattention existed, as to the nature and wants of medical science, though it was a matter in which every individual forming that community was more or less interested.

This inattention, this apathy, would be the less deplorable, if ignorance indeed were merely of a negative quality: if failing to do right, it forebore to do wrong—but in this, more than perhaps in almost any other country it was, he regretted to say, most mischievously active, and greatly augmented the “ills which flesh is heir to”

To whose fostering care, were the lives of thousands, aye of millions, entrusted in India, under the various states of disease to which all, and every one of them may one day or other become subject? To the wretched and ignorant empirics who infest every city, town, and village in these vast and populous territories—men eager to earn a profitable subsistence, at the expense of human suffering, yet content to remain grossly and darkly ignorant of the veriest rudiments and first principles of the healing art.



It would be illiberal in him to deny that there were exceptions to this description. But to what, he would ask, do even these rare examples amount? A mere sprinkling at most, of a few intelligent individuals who, under the guidance of some natural turn for observation aided by common sense, may have acquired some superficial knowledge of disease—such a smattering perhaps as to enable them to treat simple cases, on something approaching to rational principles, and so by relieving the sufferings of their fellow-creatures, obtain the confidence of their countrymen. But, after all, what *were* these among the number requiring medical aid.

It surely could not be wondered at, that these empiries—quacks—should be extensively encouraged, so long as there were no competent and respectable practitioners in the art of medicine, to fill their places. But, they would see what would be expected, if in course of time, that College should be the means of disseminating over this country, a body of well qualified, and efficient medical men. Why, independently of the advantages which must accrue both to the community and the practitioner, it may be hoped, indeed it may be expected, that the Government would extend its patronage in proposing some kind of legislative enactment, to prevent uneducated and unqualified persons from practising. This plan, he said, which at least had the recommendation of simplicity, had already been adopted in other countries, with great success. In France, for instance, there was but one school, or faculty of medicine as it was called, one education, and one examination. After having undergone the latter, the individual may practise all branches of medical science, in any part of that country. But it was only those so educated, that were qualified to practise. It was the same in the United States of America, and he believed nearly so, in the Universities of Germany: he wished he could say as much for England.

Now they might rest assured that those only who had studied the profession as a science were qualified to practise the healing art. It would always be required of such, that they be the respectful and observant followers of Nature. They would never presume to precede her, except to remove some impediment from her path, or to perform what she evidently indicated; but, as he had already said, in this country, the ignorant take the lead, place obstacles in the way of Nature's progress, and presume to direct her course. But they would find, as they advanced, that so admirably was man constituted, that the very actions of disease often tend to the restoration of health: yet these beneficial actions by the ignorant, were deemed diseases—and were put a stop to—and far worse maladies established. Trifling diseases were suspended, they might call them cured, by means destructive to health, and productive of lingering infirmities.

But before he quitted this subject, he would look to the metropolis of British India. To Calcutta itself. To whom do the majority of natives of rank and wealth, and intelligence in the present day, resort in times of severe sickness? To Europeans. And why, it may be asked, do these entrust their lives to the care of foreigners, whose very touch or even presence is apt to be considered a contamination? Not because the trusted physician is of European birth or extraction. Not because of preference to strangers over their own countrymen. But because the European is known to have received an education that vouches his fitness for his vocation. Because he has been sedulously taught his art on scientific principles. In short, simply because the knowledge he has acquired is well understood and believed to be built on a solid and sure foundation. But was this state of things right? and natural? Should the moral condition of the natives subject them to this infringement on their hereditary or religious privileges? Certainly not. You, observed the lecturer, are the persons to whom the eyes of your own countrymen will be directed hereafter, as

substitutes for European skill. It is you, who ought to supersede the foreigners, or enter into honorable rivalry with them. And, placing as I do the firmest reliance on your determination to prosecute your studies with zeal and perseverance, it is you who will ultimately supersede them.

Can it be credited that Egypt, which seven years ago possessed no kind of medical institution whatever, now boasts of a well organized Medical Government, essentially superior in many respects to that of a nation which vaunts of its multitude of chartered corporations, professedly devoted to the cultivation of medical science? The latter remark, he was sorry to say, was in allusion to the public Hospitals and Medical Colleges of England. But he would see to what intent the tree of knowledge had been replanted in a country where it had perished ages since. What has sprung up in uncivilized Egypt? Why? an organized Medical School, embracing four distinct sections, which he proceeded to enumerate.

He hoped his pupils would not be led away with the idea that the science of medicine was to be learned by attending lectures. It was not by their daily attendance in that room, in mere compliance with the customary routine of study, that would avail, unless their attention was exclusively devoted to the subject before them. Lectures, like books, were only auxiliaries to the practical study of disease: but the medical sciences rested chiefly on observation, and were only to be acquired by resorting to Nature.

A course of lectures should contain a general, but not minute exposition of the science, a discussion of the principal doctrines, a methodical arrangement of the subject, and such a collection of knowledge from various quarters as was calculated to exhibit the present state of the art, and so arranged as to suit the capacities and minds of the pupils. But the rest which was necessary they should know, and which was by far the most essential part, must be supplied through the active exercise of their own industry and energy.

It was not then lectures or writings that would qualify them as medical practitioners. Nor indeed was it a knowledge of Anatomy and Physiology alone, which could teach them that of disease. The question then is, how were they to be taught this; by studying the book of Nature Lectures and books, though they may be useful, are but of secondary importance in comparison with the observation of disease. It was of course necessary, in the first instance, to acquire some knowledge of Anatomy and Physiology, which were the great ground-works of Medical Science, before they could turn their observation of disease to a profitable account. No mechanic would think of repairing a watch or a clock, who was not well versed in all its parts, its movements, and its connections: the same with respect to the human body, no person was able to cure its different diseases without his being acquainted with the structure of the whole. But having gained this knowledge, his pupils would be able to judge of the distinctions between health and disease—and it was then that much would depend on their observation, for they must see, watch, and examine the sick patients for themselves. A large hospital, then, they would soon discover, was the best school of medicine, and *clinical* instruction, under the guidance of a competent teacher, was the best and surest mode of learning. The facts thus presented to the senses, make a much stronger impression than any description. The immediate appeal to Nature, which the presence of the sick patient affords, and the close attention of intelligent students, supply at once a salutary excitement to the preceptor and pupil. A few cases attentively observed would teach them more than any lectures or books. For if they attended to Nature with an unprejudiced eye, they could not go astray. To secure these advantages to their full extent, he was happy

in being able to inform them, that the arrangements made by Government, for the practical instruction of the pupils of that College, were ample. Besides the valuable sources which would hereafter become available, as the European General Hospital, the Native Hospital and its dependent Dispensaries, the Eye Infirmary, all of which were under the superintendence of the most experienced men in this country, a Hospital, containing a large average number of patients, was to be established on the premises adjoining the Medical College. This would prove a valuable acquisition, as, independent of its affording ample means of practical instruction, the pupils during the early part of their studies would be saved the time and trouble of seeking the same information from a distance, while their attendance would be conducted on all occasions in the presence of their instructors.

With reference to the plan of instruction and the regulations by which this would be guided, so much would depend on circumstances which were likely to arise as they would proceed, and which at that time could not be reckoned on, that he had thought it advisable to defer drawing up a prospectus until sufficient progress had been made in his arrangements, to admit of his plans being regulated by a fixed code. On their doing so, depended, in a great measure, the preservation of that regularity of attendance, and good moral general conduct which he would ever hope strictly to maintain within those walls.

Their attendance would not be required for more than  $1\frac{1}{2}$  hour each day for the present; and he should endeavour to keep to this limit probably for the first twelve months, that is, as regards what would be considered public instruction, in order that they might have as much time as possible to devote to a continuation of their general studies. He would exhort all of them, who had the opportunity of improving themselves in general knowledge, whether at school or at their own homes, to make the best use of the intervening time, for the greater store of general information they acquired, the better would they be prepared to meet, and receive with profit, the numberless difficulties they would have to contend with, in seeking to gain an adequate knowledge of Medical Science ere they would be qualified as practitioners. Furthermore this opportunity of improving their general education was perhaps the last they would have, because by and bye the necessity would arise to oblige them to devote their exclusive time to Medical Science, that is, if they were ambitious of becoming efficient practitioners.

He would conclude that day's discourse, then, by assuring them with all possible sincerity that his associate Dr. Goodeve, and himself partook out of the common spirit by which every teacher should be actuated, viz, that in urging men on to study with zeal, perseverance, and assiduity, their best efforts would be directed to the improvement of those who commit their education to their charge. For they felt that the success of that institution, which was so fully calculated to aid the course of useful information amongst the natives of this country, would mainly depend on the friendly relation, which he hoped to establish and support, between the teacher and pupil. Thus by mutual aid and by a common interest, he might hope to contract that friendly intercourse, which might prove a lasting source of gratification and advantage to them both.

It was very probable there would be many points in his lectures, both in regard to language and details of the science, which he might have failed to describe with sufficient clearness to meet their understanding. If these should occur, or rather he should have said when these occur, he trusted they would not reconcile themselves to continue in uncertainty about them. He advised them on all occasions to reject, without ceremony, any delicacy which would prevent them, applying to Dr. Goodeve or himself for further explanation. So far from his being averse to these inquiries, he would re-

ceive them as a gratifying proof of their zealous attachment to their profession, and of their determination to understand it.

Lastly he would impress on their minds the serious nature of the studies they were about to enter upon, and to exhort them to employ most diligently the short, he would almost say, too short period of time, that they would have to devote to the purpose of rendering them able to take upon themselves the active duties of their profession. They might believe him, when he said that the study of medicine was a most arduous undertaking. He did not wish to discourage them when he told them that it would occupy persons of great mind and shining talent many years to master it, and bring up their knowledge to the present state of the Science. It was, however, a salutary and pleasing exercise of the mind, while the practice of the profession called forth all the better feelings of their nature. In some respects they enjoy peculiar advantages: they were employed in the study and contemplation of nature, and the investigation of truth. They were not called upon to defend doctrines and systems, nor to uphold any particular set of opinions. They had not interests at variance with those of the community at large. In professional intercourse with their fellow creatures they were known only as the instruments of good—as the means of restoring or securing health, the greatest of blessings—of alleviating or removing pain and sickness, the greatest of evils, and to soothe the acute anguish which relations and friends feel for each other. Not only the happiness of the misery of life, but the very question of life and death often depended on their judgment and exertions.

Observe, said the lecturer, the responsibility, belonging to those decisions, on which it would depend, whether a beloved husband or wife should be saved; whether children should be restored to their anxious parents, or parents be preserved for the benefit of their offspring. He trusted, that bearing in mind the serious nature of these duties, they would eagerly embrace every opportunity of gaining that knowledge which would qualify them for discharging them effectively.

They would thus become respected members of an honorable profession, and they would prepare for themselves in the decline of life the sweetest of all rewards, the retrospect of labours, devoted to the good of others. — *The India Journal of Medical Science*, July, August, 1835.

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## DR. W. B. O'SHAUGHNESSY'S M. D. INTRODUCTORY LECTURE.

*Delivered at the Medical College, Calcutta, April 1836.*

In the commencement of my second course of Lectures on Chemistry for the pupils of this institution, I cannot but experience the highest satisfaction when I contrast the circumstances of the present occasion with those of the first day on which I had the honor of addressing the classes of the Medical College. On the opening of that preliminary series of lectures, many and seemingly insuperable obstacles opposed the success of my undertaking. In ignorance of the amount of capacity of my pupils, uncertain as to the feelings with which they might regard the science, I was called on to teach them, destitute, too, of the apparatus requisite for the illustration of my lectures, I commenced my duties under the most painful apprehensions. But the experience I have acquired, and the events which have occurred during the past three months, have been amply sufficient to dispel all these fore-bodings. In the brief course I gave during that period, I found my pupils not only apt and industrious, but literally enthusiastic in the pursuit on which I was leading them. I found them conscious of no difficulty either in the nomenclature or the purposes or manipulation of the science, in short, I found them possessed of every requisite a teacher could desire. The deficiencies of apparatus and materials again were but of very brief duration, the Government with its characteristic liberality and zeal for the great cause of education leading the way in supplying every article at its disposal, an example followed in a corresponding spirit by the managers of the Hindu College, and by many private individuals. Under all these circumstances I should be totally destitute of the zealous and warm feeling essential to my situation did I not regard with the utmost gratification the occasion for which we are this day assembled.

Reflecting for a moment on the nature of the audience, I now have the honor of addressing, composed as it is of many distinguished patrons of the cause of native education, of the foundation pupils of the Medical College, and of pupils of the Hindu College, not destined for the medical profession, I cannot but feel that I will best discharge my duty to the entire by explaining the nature, objects and useful application of the science I am appointed to teach, and submitting at the same time to the judgment of my hearers the system of instruction it is my intention to adopt. In explaining the nature of the science, I will perhaps be obliged at first to enter into a few details of an abstract and perhaps abstruse character, but I shall endeavour by experimental illustrations to facilitate the general comprehension of any difficult parts of the subject, and I shall pass from these as rapidly as possible to topics of more general interest.

As the study of Chemistry is but a subordinate branch of the mighty system of science to which the term Natural Philosophy has been applied, it will facilitate the object I hold in view, if we occupy a few moments in considering the proper import of these terms.

*Natural Philosophy* in ordinary language means nothing more than the science or knowledge of natural truths. It embraces thus every fact in the phenomena of the universe, which our intellect is capable of comprehending and of arranging in similar groups referable to the same or to analogous causes. These causes may be unknown, but their effects are obvious, so much so indeed that a clue to their proper classification may be found in the indisputable proposition--that all the material masses in nature are composed of indestructible particles or *atoms*, combined or held together by *attraction* of various kinds, and these particles being in themselves *inert* or incapable of changing their state of motion or of rest. These few great truths, as that popular and elegant writer, Dr. Arnott, observes, lead to a ready comprehension of the nature of the masses of

the universe and of the movements occurring among them and the laws by which they are governed. And even when we leave the comparatively narrow circle to which a contemplation of mere material and terrestrial phenomena would restrict us, when for instance we investigate the nature of heat and light and electricity and magnetism, and when we ascend to the sublimest of all studies, that of the movements of the heavenly bodies, these truths still point to the readiest path by which our investigations may be pursued with facility and success.

As it is under the head of attraction that Chemistry becomes a department of Natural Philosophy, or of the knowledge of natural truths, I may so far anticipate a subsequent lecture as to enumerate the varieties which the natural force of attraction present. We have thus the attraction of *gravitation* which causes all bodies to move towards each other in proportion to their mass, as substances fall towards the earth, as the tides obey the approach of the moon, and by which the heavenly bodies are balanced in their perpetual career through space. Again, there is the attraction of *cohesion* by which two smooth and uniform substances, such as polished metals or glass, or cut Indian rubber, adhere together, and lastly you have the *electric* attraction to which, as it embraces the *magnetic* and the *chemical*, I shall advert in more detail.

Without entering into minutiae which to the majority of my hearers would prove utterly unintelligible, a few remarks will sufficiently explain what is meant by the words *electric attraction*. When a piece of glass or wax, or many other substances are rubbed by silk, it is found that the glass acquires the power of attracting or drawing towards it various light bodies in its vicinity. This is simply illustrated by the action of the electrical machine before you, in which friction excites this property to a remarkable degree.\*

Now you will observe that in these experiments the attracted substances undergo no change of properties. Their color, form, &c., remain as they were before in every respect. To this then the *specific* name of *common electric attraction* is given to distinguish it from the next which may be called the *polar* or *magnetic*, because under its influence bodies are disposed to place themselves in a determinate position with regard to the cardinal points of the earth, pointing N. S. E. or W., and while so affected have the additional property of attracting iron and a few other substances with great power. With the common *magnet* or compass needle, almost all my auditors are familiar. You know how it points nearly to the North and South, and how powerfully it attracts iron. The cause of this polarity and attraction remained for ages one of nature's most mysterious secrets, but the splendid discoveries recently made by Faraday and Oersted unequivocally prove that the magnetic is but a species of electric attraction. The minute and detailed accounts of these discoveries I must reserve for another occasion. The proof I will shew you now. Whenever an electrical current is established in a certain direction in any substance, that substance tends to place itself in the same direction as the magnetic needle or mariner's compass, and it attracts masses of iron in the same manner. An electric current being thus excited in two minute plates of zinc and copper, and made to circulate round a piece of common iron, converts it instantaneously into a magnet of extraordinary power.†

Such are two of the varieties of electric attraction. The third is the *chemical* which differs remarkably from the other species enumerated. It only

\* Here Dr. O'Shaughnessy illustrated his remarks by an experiment with paper figures, bells, &c.

† Dr. O'Shaughnessy performed the experiment with the temporary magnet, and De la Rives' apparatus.

acts at insensible distances; it changes the secondary properties of the bodies between which it operates, and thus gives rise to the endless and beautiful variety of color, form and fabric, which by means of a few simple substances, only 54 in number, renders the constituents of this globe the inexhaustible sources of happiness and delight to mankind.

The names of these 54 substances I have written on the list before you.\* They are called *simple* or elementary, because they have not been decomposed or converted into more than one distinct substance. With the names of many of them, even the youngest of my hearers is familiar. There is gold for instance and copper and silver and lead and iron well known to every one, and called *simple*, because we cannot from gold or iron, &c., make any substance of different properties unless some other substance be present. These simple substances are arranged under the heads of airs or gases, of metals and of solid non-metallic bodies. Now combined with each other in various proportions and numbers under the extraordinary power of the last or *chemical* variety of electrical attraction, these 54 substances constitute the whole material form of our globe, and its inhabitants themselves. The air we breathe, the waters we drink, the soil that yields us food, our food itself, in all its varieties, the fabrics of our attire, of our dwellings, our machinery, of the implements of war, of husbandry, of all the pursuits of life, are thus simply and thus the more wonderfully constructed. You may contemplate all the objects which surround you in this room, and however great their variety, their ingredients are enumerated on that list. It is their association by *electric attraction* or *affinity* that gives rise to the variety you behold. The science of chemistry is that then which examines the relation this species of attraction or affinity establishes, which ascertains the nature and constitution of the compounds thus produced, and which determines the laws by which its action is guided.

A few readily intelligible experiments will illustrate what I have stated regarding the distinguishing properties of simple substances and the peculiarities of the *chemical electric attraction*. These experiments will further impress on the minds of the student this distinguishing feature of chemical attraction, namely, the changes which it effects in the form, color, smell, and other secondary properties of the bodies between which it operates.†

The domain of the science may thus appear to be what in truth it is of vast and almost infinite extent, nevertheless its study presents facilities which soon enable us to master its details. Between Chemistry and the study of a language previously unknown to us, a striking analogy may be traced. The words of the language, however numerous, are composed of but a few letters. We learn the forms and sounds of these letters to associate them in words, and these words, again we can analyze and divide into their original elementary constituents. Thus it is with the materials of this world, we look around us, are amazed at its grandeur and diversity, and our senses are confused as when we open a volume in an unknown tongue. But experiment and analysis effect for the chemical philosopher what grammars and dictionaries accomplish for the linguist. The difficulties of both pursuits soon vanish, and the original chaos is marshalled into a system of perfect simplicity and order.

Having thus endeavoured to explain and illustrate the *abstract* nature of chemistry, I shall next attempt to point out the practical applications of the science, its importance as a branch of general education, especially for the natives of this country, and above all, its essential, its vital necessity to the medical student.

\* These were written on a board in front of the auditors.

† Here the process or explained by experiment the change of properties caused by the chemical union of various gases.

As a department of the general student's education, the knowledge of the properties of these simple substances and their compounds, is fraught with manifold advantages; of these, one of the most valuable, is its peculiar tendency to the formation of habits of sober and philosophical reasoning. Its very essence being the discovery of the qualities which distinguish one material substance from another, it trains the student by an insensible but irresistible power in the discrimination of truth from error in all its relation whether metaphysical or material, it is, in fact, one of the best symptoms of practical logic a youth can learn. It teaches him how to observe and appreciate the minutest shades of difference as well as the widest generalization of facts, and it does this, not by an appeal to our mental faculties alone, not by the dry comparisons of the sides of triangles or diameters of spheres, but through the channels of all our perceptions by what we see and hear and feel and taste and smell. On the first occasion of my addressing the classes of the Medical College, I quoted in support of these opinions a passage from an essay by Mr. Parkes, which seems to me to bear so appropriately on the subject that I may perhaps be pardoned for referring to it again; in alluding to the use of chemistry as a syllogistic system alone, Mr. Parkes emphatically says. "It may be remarked that it is the necessary consequence of this study that it gives the habit of investigation and lays the foundation of an ardent and enquiring mind. If a youth has been taught to receive nothing as true, but what is the result of *experiment*, he will not be in little danger of being led away by the insidious arts of sophistry, or having his mind bewildered by fanaticism or superstition. The knowledge of facts is what he has been taught to esteem, and no reasoning however spacious will ever induce him to receive as true what appears to be incongruous or cannot be recommended by demonstration or analogy."

Such was the opinion of Mr. Parkes, one of the most elaborate and highly informed writers on this subject. But it is not merely on these moral grounds that I would seek to establish the importance of the study to the general native student, other and perhaps more persuasive reasons may be laid before him. By becoming proficient in this science, he learns the certain means of obtaining lucrative employment and considerable distinction. We are in India situated in the vicinity of many territories to which Europeans are denied access, and which a scientific eye has never yet explored. These are open to the ingress of our native fellow subjects, but they know not how to make the observations which chiefly render travels of scientific interest or utility. But if possessed of due knowledge of chemistry and natural philosophy, the native traveller would enter these unexplored regions and view them as he would a book in a familiar tongue. He could ascertain the heights of their mountains, the nature of their soils, the character and value of their mineral riches, the composition of their drugs and dye stuffs, and all this with an apparatus not worth one hundred rupees. But not to step beyond the limits of our own possessions, we might point to climates and localities where a European dare not venture, but where a native may reside with impunity, where rich mines of the precious metals, as well as of copper, iron, tin, and lead have been discovered, sources of inexhaustible national and individual wealth, but now utterly profitless through the extreme ignorance of natives of the mode of working the ores. In illustration of what can be effected in this department, I may mention that in a series of specimens sent to me from a native copper mine in Kemaon, the mere slags (or the part considered as waste by the workmen) were richer in copper than many ores which are turned to great profit in the hands of educated men. Under such a system native mining must be indeed a very useless calling, while if prosecuted by persons trained in chemistry for a few months, it would become a fertile source of



national and individual emolument. Analogous cases are so numerous that they would occupy a long lecture to detail them. Possessed of many of the finest dye stuffs in the world, India is forced to export them to a more enlightened land, where the cottons also exported from India receive their colors and return to the place of their original production. I might adduce the instance of the Turkey red and of the permanent shawl green in proof of what India loses by her ignorance of the chemistry of the arts. The Turkey red cottons are well known in the markets of Bengal for their fine and permanent color, and their high price, yet though all the materials used in the process are of Indian growth, the skill to apply them does not exist, and the consumer is consequently forced to pay the expenses of their exportation to Europe and their return to India, as well as the remuneration of the European dyer. It is an authenticated fact that the shawl weavers of Cashmere and upper India have on more than one occasion purchased up English green cloth at fifteen Rupees a yard merely for the purpose of extracting the green dye by which it was colored. In the manufacture of porcelain, glass and various kinds of pottery, in the production of saltpetre, the cultivation of drugs and dye stuffs, for the wholesale market, the same wide field exists, in which numbers of young men would find lucrative employment, and would moreover be the source of inestimable benefit to their countrymen by disseminating among them the knowledge of the improved processes by which the value of the manufactures alluded to would be enhanced beyond calculation.

Such are a few of the useful applications to which the general student may turn this captivating science. It is one, moreover, which the humblest mind can sufficiently comprehend and avail itself of, while to the highest and most gifted it affords unbounded scope for the employment of all its endowments. Duly impressed with the necessity of disseminating such valuable knowledge, our most patriotic and enlightened statesmen and other individuals of high rank in England, have within the last few years lent all their influence to the establishment of Mechanics' institutes throughout the manufacturing towns; in these institutions regular lectures on chemistry are delivered and crowds of humble citizens receive gratuitous instruction. The result is already known—from the ranks of the workman and the mechanic have sprung up a multitude of men of genius, whose endowments would otherwise have been thoroughly lost to mankind. Every art and manufacture has already felt the impetus of this mighty power of education; inventions are daily patented and their practicability proved which but a few years since were merely talked of and laughed at as idle chimerical dreams. In short, the progress of improvements becomes so rapid and extraordinary that it is difficult even to speculate on the limits which human ingenuity will ultimately find.

But even here I cannot close the enumeration of the motives which should influence the *general* student in the prosecution of this study. I am aware that among my native pupils there are many young men whose affluent circumstances will place them beyond the necessity of turning chemistry to purposes of emolument, and who perhaps may reasonably feel no ambition for distinction in this or any other science. But even to this section of native pupils I can hold forth inducements enough in the mental gratification every rational being must derive from the views this study communicates of the beauty, the simplicity, and the design which pervade all the natural phenomena around us. A lecture I once attended at the Royal Institution of London may well illustrate this position. The lecturer treated of the nature and properties of the air, —of the atmosphere we breathe.

He took a portion of the air of the room in which the audience was assembled. He analysed it and shewed that in that invisible impalpable

fluid there were two different gases ; these gases again he extricated from other substances, and imitating nature's own processes he made atmospheric air. By appropriate experiments he caused mists and clouds to form and miniature lightning to play through the air he thus created. He caused iron to burn like cinder in one of its elements and by the combustion of lime produced a light as intolerable to the eye, as the rays of a noon-day sun. Water he shewed congealed in a few moments as if by winter, he then separated its elements and made them re-unite with an explosion like the thunder, and such heat that flint and agate melted before it like wax before an ordinary fire, and to crown the demonstration, he lastly exhibited the same elements in another form, impelling a steam engine with the power of an elephant but obedient to the finger of a child. The audience on that occasion were composed of many distinguished noblemen, jurists, military officers, divines and other individuals of *general* education, and all seemed equally delighted with what they had witnessed. If then these science disclose such attractions, that it is followed with avidity by these distinguished classes of society, the native general student may with confidence become their imitators in this as in many other pursuits.

But if chemistry be thus profitable and gratifying to the *general* student, the *medical* student derives from it such inestimable benefit that I feel bound to point out in some detail the leading applications of the science to medicine and its tributary or dependent pursuits.

Though the nature of *life* is yet utterly unknown, and perhaps altogether inscrutable, we find that in the living body there are constantly taking place numerous chemical actions essential to life's continuation. Of these one of the most important, is *respiration* or breathing. Chemistry has long since pointed out that the air we breathe is not, as the ancients thought, and as the uneducated still believe, an elementary or simple substance but composed of oxygen and nitrogen gases, with small quantities of an air called *carbonic acid*, and it has further proved the extraordinary fact that it is the oxygen alone which supports our breathing and thus maintains our lives. The *nitrogen* lends no assistance to the function ; but most strange of all, the *carbonic acid* which exists in the air, we are at this moment respiring, is a poison of such power that if it was present in the proportion of but *one* to *four* parts of air, every individual in this room would instantaneously perish. By various natural and artificial processes this poison is produced abundantly on the surface of the globe. In many places it accumulates rapidly to the imminent danger of those who approach incautiously. A moderate knowledge of chemistry, however, enables not only to ascertain when its proportion becomes too great, but when this has happened to render it perfectly harmless. It leads us too by our knowledge of the cause of the accident to efficient means of treatment and cure. Many of the pupils now present recollect the experiment I showed them in demonstration of these facts, and how a bird apparently killed by carbonic acid, on the application of the proper treatment, instantaneously recovered and flew from the table.

The application of chemistry to the study of respiration, and the understanding and treatment of many other accidents and of some diseases, in which our breathing is concerned, would in itself occupy more than one lecture, I shall consequently turn to other and equally important applications of the science in medical pursuits. In the *digestion* of our food, it has revealed the elements which most contribute to the nutriment of animals, explained many of the wonderful changes by which our food is converted into blood and flesh and bone identical with our own. It has taught us how to relieve many painful and dangerous diseases of the digestive organs by strictly chemical means, and it has shewn mankind how to extract wholesome, palatable and nutritious food from many substances long supposed to be utterly destitute of utility.

In diseases of the *urinary organs* again, in stone and gravel for instance, a knowledge of chemistry is indispensable. The stones formed are of different kinds, in fact of opposite constitution. Some of them are dissolved or their formation prevented and the patients cured by means of remedies, which would to a certainty have the effect of aggravating the disease were the stone of a different chemical constitution. In short, if we understand chemistry, we can cure many cases of stone, and thereby spare our patients a dangerous and awful operation; but if we are ignorant of that science, our remedies will in all probability make the disease infinitely worse than before.

Again the blood and its secretions are only understood by the chemist, and he applies his knowledge of their composition to practical uses of the utmost importance, in some diseases, for example, the blood undergoes changes which chemistry alone can explain, and by this explanation we are guided in our research for appropriate systems of cure. Since the era when medicine was first cultivated, no more remarkable event has occurred, no more extraordinary proof of the power of well directed science over disease has been exhibited than the one to which I am now about to call your attention. As soon as the pestilential cholera reached England, experiments were undertaken by the desire of the Central Board of Health, with a view to ascertain whether the blood or other fluids of the body underwent any change in the disease. I had the good fortune to have been employed for this purpose. Simple experiments, so simple that I have already taught many of this class how to perform them correctly, shewed that the blood was altered in a remarkable degree—that it had lost a great quantity of the water it naturally contains, and the saline matter in which it also abounds. The inference seemed to me obvious, that whatever might be our ignorance of the cause of the diseases, this at least was one of its effects which we should obviate before a cure could be accomplished. To effect this I proposed that at least in the desperate cases, abandoned by all other systems, an attempt should be made to restore the fluidity of the blood by injecting the substances it had lost directly into the veins. The suggestion was immediately adopted, and on the 10th of May, 1832, the first trial of the operation was made in Leith, by Dr. Latta of that place, and was attended with results perhaps the most wonderful of any recorded in the history of practical medicine. I quote Dr. Latta's words.

"The first subject of experiment was an aged female, on whom all the usual remedies had been fully tried without producing one good symptom. She had apparently reached the last moments of her earthly existence, and nothing could injure her, indeed, so entirely was she reduced that I feared (Dr. Latta says) I should be unable to get my apparatus ready ere she expired. Having inserted a tube into the basilic vein cautiously and anxiously I watched the effects. Once after once was injected, but no visible change was produced, still persevering I thought she began to breathe less laboriously, now the sharpened features and sunken eye and fallen jaw, pale and cold, bearing the manifest impress of death's signet began to glow with returning animation, the pulse which had long ceased returned to the wrist; at first small, weak, by degrees it became more and more distinct, fuller, slower, and firmer, and in the short space of half an hour when six pints had been injected, she expressed in a firm voice that she was free from all uneasiness, actually became jocular, and fancied all she needed was a little sleep.

Such were the immediate effects of the operation. It was immediately repeated on fifteen abandoned cases, cases of individuals apparently beyond all human relief. In every case the same respite was given, and five of these moribund dying patients completely recovered. Dr. Girdwood, of London, next came forward and out of seven cases obtained five perfect cures. In one of these blood drawn from the patient one day before and

three days after the operation, were given to me for chemical analysis. In the first the blood was thirteen per cent thicker than it naturally should be; in the second after the operation, it had completely regained its natural density.

The instantaneous benefit invariably derived from this operation, and the number of cures obtained almost and miraculously by its use, prove, at all events, the correctness of the principles on which it was founded. It is said to have failed in many cases. This is not surprising for many reasons; the patients on whom it has been performed hitherto have in a vast majority of cases been either dying or actually dead. We could not pretend to work miracles by this or any other method. But independently of this, the thoughtlessness or ignorance of many practitioners in performing the operation with common instead of distilled water, is quite sufficient to account for many of the reputed failures, and for this reason, common water invariably contains atmospheric acid. Now the injection of a minute portion of air into the veins is so rapidly fatal that this is the mode now adopted for killing horses at the tanneries of Paris.\*

I might dwell at great length on this as on many other causes of the reported failure of this operation did my time permit, I now content myself with quoting from the most eminent medical periodical of that day, its Editor's observations on one of these extraordinary cases.

"The cases thus alluded to we think are of the most interesting recorded in the annals of our profession. It entitles us to presume that as organic chemistry improves, as our knowledge of the relation between the blood and remedies of different kinds increases the art of treating diseases in general will be placed on a more certain and rational foundation. It teaches us how boldly we may proceed when certain and scientific data are before us, and it thus dispels the all but cowardly timidity which has hitherto prevented the principles of the treatment in question from being carried into effect."

These remarks are from a leading article in the *Lancet* Vol. 1. 1832, where full official reports will be found on all the particulars of this interesting subject.

I feel that I have now trifled so long with your patience that I must pass over very briefly some other departments of medicine, in which chemistry is equally essential and valuable.

Among the foremost of these, especially in the country, is the study of the chemical composition of the medicine used in surgical and medical practice.

Some of the most powerful medicines we possess, such as calomel and the other compounds of mercury, lead, antimony, copper, iron, &c. are exclusively artificial preparations, all easily and cheaply and well made by those who understand chemistry, but only obtainable at enormous expense by persons uninformed in that science. In every bazar in India the raw material is to be found from which all these valuable remedies, from the use of which our countrymen are now debarred, can I repeat, be easily prepared. But you must be practical chemists to accomplish this national object, mere book chemistry will not do. In proof of this I need not adduce more than one solitary fact. The substance called *soormah* or sulphure of antimony, which is cheap and abundant in every bazar, is the source from which all the invaluable preparations of antimony, for instance, *tartar emetic* is prepared. Now, on referring to Dr. Ainslie's work on Indian materia

\* I may add too that distilled water as it is commonly prepared contains a considerable quantity of air also. For this important operation the water should be distilled so that air could not come in contact with it. And heated when required to the due temperature in the bottles receiving instead of using the rude mixture of hot & cold water generally employed.—*Note by the Lecturer.*

medica, you will find that author asserting that what is sold for *soormah* is always sulphuret of *lead* not of antimony. The practical chemist alone could decide this question, and on analyzing the *soormah* of the bazar, I found not only real sulphuret of antimony but the best and purest I ever met.

Again there are many valuable medicines, such as Peruvian bark composed of a small quantity of an active remedial principle, mixed up with much useless or even prejudicial matter. From this bark the chemist has extracted quinine, by which we now can master most of the fevers of this country, rendering it to the wealthy and the great, practically on a par in salubrity with many more favored climates. But this Peruvian bark and quinine and other similar valuable remedies are only obtainable from Europe or other countries at an expense which renders them unattainable by the poor inhabitants of this country. But I have too firm a faith in the providence of nature not to believe that she has been as bountiful to India as to Peru. Though our jungles and forests exhale miasma, they are doubtless productive of febrifuge vegetables too. I look with confidence to the indigenous materia medica for a substitute even for the inestimable quinine. The enquiry is already proceeding under the most favorable circumstances, and ere long I trust the discovery will be established which would be fraught with inappreciable good to millions of our poor Indian fellow subjects. This once accomplished, we will in India, if a class of native practical chemists be brought into existence, be almost independent of any other country. I have taken the trouble of counting the number of medicines now imported from Europe. They amount to several hundred, all of which, except 80, may be prepared or grown in this country. For these 80 many efficient substitutes exist in known indigenous productions.

It is almost unnecessary for me to pursue any further the uses of chemistry to the medical student. I will only allude to one topic more. There are numerous and very powerful poisons rapidly proving fatal when taken in a certain quantity. I may mention prussic acid, barytes, oxalic acid, corrosive sublimate, caustic potash, oil of vitriol, &c. as instances; these and many others chemistry renders perfectly harmless by pointing out antidotes, which if administered in proper time are the certain means of saving life. To chemistry again we turn in cases of murder, by poisoning, to enable us to detect the substance used, and bring the murderer to justice. The nicety with which in many cases this science enables us to accomplish this important end, will be judged of when I tell you that a very little practice in the laboratory will enable you to detect 100th part of a grain of arsenic, corrosive sublimate, &c. in any mixture that can be presented to you. And perhaps it will be equally pleasing to you to know that this science will very often enable you to protect persons laboring under false accusations.

I shall now conclude by giving a summary account of the mode in which the classes shall be conducted.

I propose in the first place to bring the pupils through the list of simple substances before you and their compounds, minutely investigating their properties as we proceed. The history of chemistry, one of the most pleasing departments of my duties, I will take up seriatim as I examine each simple substance. Thus when we come to the metals, their history will bring us back to the days of Geber and the alchemists, to their dreams on transmutation and on the philosopher's stone. When the *air* is to be described the labors of Priestly, Cavendish, and Lavoisier will find their most appropriate; because most intelligible, record. Having gone through the simple substances, I shall shew how they are affected by heat and light, and in this department the steam engine, and subsequently the recent magnificent discoveries in electricity and magnetism will be fully considered.

In this system I may add, I imitate with slight modifications the plan pursued in the Schools of Chemistry of the Universities of Edinburgh and London. I say with slight modifications, for I am aware that it is usual in most schools to commence with heat and light, and thence to proceed at once to electricity and magnetism, and last of all, to the simple substances. The plan seems to me open to so many objections, that I have decided on adopting the different course I have described. From the difficulties I myself encountered while a student in comprehending the laws of heat before I was taught the properties of the substances on which the operation of these laws was pointed out, I cannot but be convinced of the advantages of the method I now purpose. How, for instance, can the *specific* heat of the *gases*, an important and most useful but most elaborate subject, be possibly studied with advantage by those who are ignorant of the other physical and chemical properties of the gases in question. On this point I appeal with confidence to more than one of the eminent scientific gentlemen now present. Again, as to heat, the recent researches of Nobili and Melloni on radiant heat would alike defy the intelligence of any student who did not possess extensive and accurate knowledge of the chemistry of the simple substances; in proof of this I may mention that the new and beautiful results, they have obtained, can only be demonstrated by an instrument called the thermo-multiplier they have constructed, and which is now preparing in this laboratory, so delicate in its indications that the heat of a common fly or of a budding flower, even of the moon's rays, is distinctly shewn by it. It would be idle, I repeat, to attempt to teach my pupils the use of this instrument at the commencement of the course, and it would be equally idle to attempt to teach the laws of heat without its assistance. These remarks, *cæteris paribus*, apply to galvanism and electricity, also sciences which Faraday has completely within the last few months revolutionized. It would be equivalent to the teaching of the Ptolemeian instead of the Copernican astronomy, if I were to follow in this school any doctrines but those which Faraday has established, and which will mark this century with distinction in all future scientific chronicles. But I might as well give lectures on astronomy to men destitute of all knowledge of the rudiments of mathematics as persevere in the usual routine of the schools, as to the order of the lectures on galvanism and electricity.

Lastly, on the alternate days, whenever the subject admits of it, the medical pupils will be instructed in the laboratory in the practical details of chemistry, especially in the making of medical preparations and testing of poisons and analysis of ores and minerals. In this section I shall follow the system adopted in the *Ecole Pratique* of Paris, the beneficial working of which I have myself witnessed. These courses will occupy about five months, and next year will, I trust, be followed by one for general students and tradesmen exclusively on the chemistry of the arts, and in which they will have the benefit of visiting the many manufactories about Calcutta, and by another for the most distinguished of the medical pupils on the minute details of analysis on the peculiar plan followed by *Rose*, the professor of chemistry at Berlin.

The only serious difficulty I anticipate in carrying these designs into execution is in the impossibility of providing all the pupils with the admirable class books of Europe. The only remedy I can devise for this deficiency, is the publication next year of the notes of my lectures in the form of a Manual. This will be of use to the elementary students, while those who distinguish themselves shall not want books to promote their exertions. Of course the success of the plan depends chiefly on the zeal and capacity of the pupils. Of their capacity no one who looks at their foreheads can doubt for a moment, of their zeal, too, I have had already ample proof, and why should they not be zealous. They have every thing before

them to make them enthusiastic. Emolument, honor, and distinction must rouse them from the apathy alleged to be their national curse. In fine, I would bid them look forward with the feelings of patriotic men to the benefits they can thus spread among their fellow subjects. Every pupil we teach here may go forth in his turn and teach a hundred more, thus scattering in every direction the seeds of useful knowledge we now are implanting among themselves. They will thus become the best reformers of their era, and though some among them may not live to see the gathering in of the harvest they have sown, their memory will at least be honored as the first who guided the plough over a field which for ages had been a *fruitless*, because an uncultivated, waste.—*The India Journal of Medical and Physical Science*, May, 1836.

## DR. H. H. GOODEVE'S INTRODUCTORY LECTURE

### ON THE PRACTICE OF PHYSIC.

*Delivered at the Medical College, Calcutta, May 1836.*

We are now about to commence upon another and a very different branch of study from that to which you have hitherto devoted your attention.

A large portion of the foundation of your future medical knowledge has I trust been securely laid by the attention you have paid to the science of Anatomy and her twin sister Physiology. You are now ready to apply with advantage the information you have already acquired and to prosecute with profit the more practical part of your profession. Without that previous knowledge you would have labored in vain, as you have already been frequently told, you can know nothing of the nature of disease until you have made yourselves masters of the structure and use of the parts which are the subject of that disease. I need not on this occasion therefore enlarge upon the important character of the studies in which you have heretofore been engaged and their intimate connexion with those to which you are about to devote your attention. Their value must be self-evident to the *præst* tyro, how much more so then to you who have already made so much progress in your studies. A progress, I may add without flattery, which has been made within so sort a period of time, that it is equally creditable to yourselves and gratifying to your instructors. Strict, however, as the connection between healthy and morbid anatomy may be, and much as the progress you may hope to make in the latter will depend upon your knowledge of the former, you will find that the subject of your present studies differs materially in its nature from that in which you have been hitherto engaged. In the study of anatomy you have, for the most part, required the exercise of memory only, now still retaining in your minds the knowledge you have already obtained, you must call reflection and judgment to your aid, and be assured, Gentlemen, these qualities must be of no inferior character, or you will never become skilful physicians nor accomplished surgeons.

In place of acquiring a long list of hard names with an account of the relative position of arteries, nerves and muscles you must now learn to distinguish between the various alterations in structure and form, which occur in the machine whose separate parts you have been studying, and you must seek to devise appropriate plans of treatment for the cure of these derangements. When you consider the nature of these duties, how much

depends upon your future knowledge and ability ; how large a portion of happiness you may produce by the skilfulness of your treatment, or on the other hand, how much misery, mental and bodily, you may inflict by the mistakes of your ignorance, you will not, I am sure, once require to be told that all your energy—all your attention must be employed to accomplish the task before you, and that the same praise-worthy diligence you have hitherto displayed must be exercised with renewed ardour, that your zeal must be unwearying, your labor unremitting.

To this you are more especially behoven when you consider the miserable state of the healing art amongst your countrymen. When you contemplate the frightful mischiefs of quackery, the fatal effects of ignorance daily manifested around you, you must see ample cause to strain every nerve to remove these crying evils. Remember the proud position in which you are placed : recollect that if you avail yourselves of the opportunities here offered you, to you will belong the high honor of first introducing amongst your brethren a radical improvement in the medical art. For when the superiority of your knowledge over that of the common native practitioner shall become conspicuous, as needs it must do, your countrymen will gladly avail themselves of it, as the richer portion of them now do of the superior science of the European surgeons and physicians.

The hope of emulating *your* success, will then induce others to follow your example. It will serve as an incitement to those who are now content with ignorance, to make themselves masters of the same knowledge, which will have rendered you so conspicuous. The trade of the quack will fail, he will be compelled to educate himself rationally, and study his profession as a science, or starve. He will no longer be able to fool away men's lives by his ignorance and chicanery.

Be assured, that the formation of this noble institution, (for the establishment of which you cannot be sufficiently grateful to its enlightened founders) will be a death-blow to the reign of empiricism in India. Every syllable of instruction, conveyed within these walls, saps the foundation of the empire of quackery which has so long triumphed in this country.

It is true that many of the native physicians pretend to great learning and no doubt they have spent much time and labor in pouring over the precepts of the Shastras and the aphorisms of the Arabian philosophers ; but in approaching the study of medicine as a science you will find that from your own medical works of the highest repute, or from the experience even of the best-informed of your practitioners you will derive but little assistance or instruction : How can it possibly be otherwise ? The medical art in India such as it is, is founded upon no knowledge of anatomy, no principles of Physiology. It is utterly devoid of all Pathological research, objects which must necessarily form the basis of all scientific enquiries upon the subject. On the contrary, it consists of a set of dogmas generally as ridiculous and injurious as they are unintelligible, stating for example that all diseases are either of a hot or cold nature, or that they are produced by humors in the brain or in the liver ; opinions formed without any reference whatever to the actual condition of the organs, or of their functions ; either in a healthy or a diseased state. Resting upon such unsound foundations, with regard to the cause and nature of diseases, how can we expect the plan of treatment to be more valuable than such opinions ? If possible it is still worse, more ridiculous, and far more mischievous. The hot and cold diseases require antagonizing cold and hot remedies to counteract them ; and such a collection of drugs and useless compounds, as the unfortunate patients are compelled to swallow, can scarcely be conceived by one educated in medicine after a rational manner. But they are worse than useless. There are too many of them positively injurious in the highest degree, many of them so dangerous that it is horrible to reflect upon the



effects which are frequently produced by them. Death itself would be a mercy in comparison with the consequences which I have sometimes seen to cause from the administration of some of these poisons. Amongst the rest I may instance mercury, which, in the hands of the native practitioners, play sad havoc with the miserable victims of syphilis. Aconite, under the name of *bis borie*, is used to an extent which frequently produces the most lamentable results; for example, madness, epilepsy and a host of others which we have not now time to speak of; but which we shall have too many opportunities of observing hereafter. When speaking of the state of native medicine in this country there is one subject to which I cannot avoid referring. I allude to the destitute state of the sick poor. The better classes when attacked with illness can obtain some sort of assistance, and those who are rich enough can procure European doctors to attend them. But alas! the poor are for the most part totally helpless; they have no where to look for aid of any kind; they die by thousands for want of the commonest relief. It is indeed a sad stigma upon their wealthier fellow-countrymen that only one native hospital exists in this enormous city, and even that in a great measure is supported by Government. It is true that it has been for some years proposed to establish another one, but the attempt has hitherto proved abortive. Some few of the more enlightened natives have, in a most laudable manner, lent their support to its establishment, but their example has not been followed by others; and amongst a population rolling in riches, thirty thousand rupees only has been scraped together with no small difficulty. A very small portion of the enormous wealth possessed by some of the rich Baboos. Wealth, either hoarded by them in large iron chests where it lies useless alike to themselves or their neighbours, or squandered in the pomp and foolery of a religious procession or a marriage ceremony, would erect hospitals and dispensaries through every town in India, where the poor might find relief from disease and a refuge from the horrors of a lingering death. Though I would fain hope that better times are coming, I fear they are yet distant. But to return to the immediate subject of the lecture.

The practical part of the Science, gentlemen, which you are engaged in studying, is divided into two portions, Surgery and the Practice of Physic. The former comprehends all the maladies which appear externally, including the accidents to which the body is liable; such as fractures, dislocations, wounds, and the various manual operations which it may be necessary to perform for the cure of diseases; in fact, all maladies which admit of the remedy being applied directly to the part affected.

On the other hand, the Practice of Physic treats of the diseases which affect the internal organs of the body, those parts to which we have no direct access; diseases whose progress we cannot witness, of whose nature we can only judge by the effects which they produce upon the system; generally such for example, as diseases of the viscera, disturbance of the great functions of circulation, respiration, digestion, and of the nervous system. There is however one class of diseases which have been placed within the limits of Physic, which, according to established rules we should expect to find within the precincts of Surgery. The *diseases of the skin* have from time immemorial formed a part of the study of Physic, yet, if it is possible for any one set of diseases to be more clearly a part of the *outside* division than another, it is these. They are most readily treated from without. In the division between these two branches of the profession it is manifest that Surgery has the most advantageous share of the work. The Surgeon can see his way clearly before him, he may watch from hour to hour the changes which are taking place in the organ which he has to treat, and he sees at once the direct effect of the remedies which he applies. On the other hand, in the practice of physic all is comparatively dark and

uncertain. The Physician for the most part sees nothing of the disorder he is treating, but the general symptoms ; he cannot observe its pregnancy or ascertain distinctly the operation of his remedies. His practice is Surgery in the dark. His situation resembles that of the Surgeon who may be called on to treat a disease of the arm or leg while the affected part is studiously concealed from him behind a curtain ; and he is only permitted to see his patient's tongue or feel his pulse. We should expect from this that Surgery would be considered the more perfect art of the two, or at least that it would have held an equal rank with Physic, but it has not, until lately, been so regarded.

In former days, Physic was deemed a noble science, while Surgery was a mere mechanical drudgery. The Physician was looked upon as a superior being, while the Surgeon was treated as a common artisan. The Physician ranked with the learned and the great, while the Surgeon was associated in the same ignoble trade with the Barber. This ill-assorted union of shaving and surgery continues up to the present day. In some parts of Europe and in the East there are still no other surgeons than the Barbers. In the more enlightened countries of Europe, and America however, in consequence of the great progress which has been made in the department of Surgery, that science has been raised to a level with Physic ; and the practitioners of both classes are placed upon an equality ; indeed they are now constantly united in one person. In England, however, more especially in London, the separation still exists to a great extent. The Surgeon and the Physician are often separate individuals. This distinction, however, for all practical purposes, is extremely absurd and inconvenient. The two branches of the profession blend so insensibly into each other that no fair line of demarkation can possibly be drawn between them.

There is yet another and an important division of medicine, the study of which forms a separate branch of education. One however which at present you cannot study ; hereafter perhaps an opportunity of doing so may occur. I allude to the department of *midwifery* and the diseases peculiar to women. It is a department which the prejudices of the East will not admit the male part of the community to practise ; and it is consequently in the hands of women of the most ignorant description, who daily commit mischief still more dire than those perpetrated by the quacks of the other sex. I do hope, however, that the time will come, even in our day, when your country-women will participate in the benefit which an improved state of medical knowledge will produce in this land. If we are not allowed to practise this branch of our profession, I trust that well instructed female practitioners in midwifery, like those of France, will, ere long, occupy the place of the wretched old women who now perform the offices of midwives and female Physicians. This distinction of Physic and Surgery, foolish as it may be in a practical point of view, is however extremely useful to the student, and universally adopted in all Medical Schools. The two branches forming, properly enough, separate portions of Education.

In furtherance of this plan, therefore, the present course of lectures will be devoted to the study of Physic alone. Surgery you will learn in due time under the guidance of my talented colleague, Principal Braithley.

In studying Physic you will soon find that you are not engaged in fathoming the depth of any exact science. So far from it, medicine is, unhappily, the most uncertain of the whole. The nature of the subject frequently renders the investigation of the Phenomena highly unsatisfactory ; and our conclusions with regard to it are too often uncertain, much as our knowledge of disease has advanced within the last few years, we are still comparatively ignorant upon many points connected with it. Even up to the present day we are at times compelled to wander in the land of speculation, without a compass to guide our way, or at the best, with one so imperfect, that it often directs us in the wrong track.

Although the present advanced state of medical knowledge may enable us to ascertain for the most part the nature of the various complaints to which the human frame is liable and to distinguish them from each other, you will find yourselves frequently at fault, and you will often have reason to know that you have formed a wrong judgment upon the disease you have been treating, and that your treatment has been altogether erroneous. There are cases perpetually brought before us which baffle the utmost ingenuity of our art to discover their true seat, and still more completely set at defiance all our efforts to relieve them. This is perhaps more specially the case with the nervous system than with any other. The impenetrable mystery, which envelops the functions of the system in a state of health, extends itself too frequently over the changes which are produced in it by disease; rendering them utterly unintelligible and too often incurable. But above all things be not disappointed if you find that your *curative intentions* do not always answer the purpose you wish them to fulfil. However correct may be the judgment you form upon the disease before you; and however well adapted your remedies may be theoretically; you will constantly fail in your efforts to obtain a cure, and you will be compelled to witness the complaint rapidly advancing to a fatal termination; in spite of all your efforts to arrest its progress. But console yourselves under such circumstances with the reflection that the patient is not immortal nor is the Physician allwise. Our art is yet comparatively so backward that the most talented and the most learned must occasionally fail for want of more accurate and extended information; under any circumstance however we cannot always succeed. Mortality is the lot of all living things. It is appointed unto all men once to die, and the whole power of our art cannot diminish the natural mortality of mankind. The utmost we can hope to accomplish, is to relieve the suffering of our fellow creatures, and to protract lives which, (but for our exertions) might sink into an early grave. True indeed as it is, that the Philosopher's stone is yet hid in the bowels of the earth; so you will find that the long sought after *Elixir of life* has hitherto been undiscovered. Do not however deem from this that our profession is one of little moment, so that because it is not all perfect it is not worthy of the most profound attention. You will soon find, I trust, that it is one of the highest value; that its effects are perhaps more important than those of any other. The success which attends the efforts of the skilful Physician are at times almost miraculous. The relief which he affords to the agonized patient, the signal triumph which he is able to obtain over disease, the many blessings which he is thereby enabled to confer upon mankind, render the science, which is capable of endowing its votaries with such power, one of the grandest and most ennobling which you can pursue.

In seeking to cure the diseases which are brought before you, you will find that the great remedial agent, the power upon whose aid alone you can depend for assistance in the time of need; whose laws must be the basis of all your principles and the guide of your actions, is *nature*. You have already seen her working in our bodies in the time of health regulating all our functions and directing the various processes which constitute life. Be assured she does not neglect us in the hour of sickness. When we are attacked with disease we find her striving to drive off the enemy, and inventing plans to eject him from our bodies. The disposition thus evinced by the power within us, called by the ancients the *vis medicatrix nature*, or in plain English, the curative power of nature, is constantly acting for our advantage and pointing out to us the path, which, as physicians, we should pursue. By watching the operation of that power, we learn to proceed upon rational principles, and we employ our remedies towards the right object. We find, for example, that cases of fever often terminate spontaneously by the bursting forth of a profuse perspiration.

or the occurrence of what is called a critical discharge of some kind, a smart Diarrhœa for instance. Observation of these processes at once suggests to us the employment of medicines which have a similar effect. Following nature's footsteps, then, we administer to our fever patients diaphoretics or medicines which have a tendency to produce perspiration, and emetics, cathartics, or purgatives which create a free discharge from the alimentary canal. Again we find that the sudden suppression of certain cutaneous eruptions tends to produce a disease in some internal organ, whilst on the other hand internal diseases are frequently relieved by the spontaneous occurrence of an eruption on the skin. From this we learn the employment of counter-irritants, or in other words, the irritation of some part of the body distant from the seat of disease, which, by setting up a new process in a remote spot, causes the original irritation to subside. Indeed we have reason to believe that many of the diseases which we behold are merely the effects of nature to get rid of some offending matter. Thus the presence of certain indigestible substances in the alimentary canal induces a violent purging. This is nature's effort to remove the annoying matter, what can we do under such circumstances? We can but follow the manifest indications before us. We must aid the efforts of nature by giving a more powerful stimulus to the irresistible action of the bowels, and by thus increasing the diarrhœa *temporarily*, we remove the disease *permanently*. Many similar instances might be adduced if we had time to refer to them. Bear in mind always that nature is the great Physician, and that we are merely her assistants; that our business is to watch her motions closely, obey her dictates, and aid her efforts. The most successful medical practitioner is he who contents himself with obedience to these laws of nature, who follows her counsels most implicitly.

You will soon learn that the more simple your remedies are the better it will be for your patient, and easier will be the treatment of the disease, and that by an unnecessary interference with *vis medicatrix nature* you not only retard the progress of the cure, but you may produce a new disease equally formidable with the one you are anxious to remove.

With regard to the employment of remedies I need not say much at present, as in this course of lectures, I do not propose to enter into any minute details upon the subject. Hitherto you are ignorant of the science of materia medica, you know not the names much less the properties of the various drugs which you are to employ in the cure of disease; it would be premature therefore to speak at length of the employment of these articles. Indeed in the ensuing lectures I shall seek rather to lay before you the theory and principles of the science than the practice of Physic strictly speaking. I shall endeavour to point out to you the general history and arrangement of the symptoms and the various conditions of the affected organs which they indicate, the judgment you may form from thence upon the probable termination of the disease, and give you merely an outline of the general plan of treatment to be pursued. Next year the lectures will be formed upon a more extended scale and partake more of a practical character, while clinical lectures will from time to time be delivered to you upon such cases of interest, as you may meet with in the hospitals. Principal Bramley will then assist me with the benefit of his extensive experience in illustrating the practical part of the subject.

Ere you enter upon the branch of study now before you, let me warn you that attendance upon lectures, however assiduous, or the most attentive perusal of medical works, will never make you skilful physicians; while you confine yourselves to them alone. There is but one school wherein you can hope to succeed in your studies to any great purpose. In the school of experience. It is only at the bed-side of the sick, by observing closely the symptoms and progress of disease, watching the effect of

remedies, and, should the termination of the malady prove a fatal one and the death of your patient afford you an opportunity to inspect the body, by carefully noting the changes which have taken place in the various organs. It is only by these means that you can hope to render yourselves worthy and useful members of the profession you have chosen.

The character of disease alters so completely under various circumstances that we can scarcely hope to find the same complaint exactly alike in any two individuals. It requires the study and experience of years to form a skilful medical practitioner. Up to the latest hour of your lives you will find that you have yet much to learn, and each day will bring with it a lesson of more or less consequence. Do not on this account however undervalue the instruction conveyed to you in lectures and books; whilst you studiously avoid a servile adherence to any peculiar doctrines, merely because they carry with them the weight of a great name; do not flatter yourselves that you are above instruction or that your own labor and ingenuity, however great, can entitle you to despise the performance of others. As beginners this is more especially applicable to you. Until you have made yourselves masters of the rationale of disease and principles of treatment your visits to the sick will be a complete waste of time. Let me beg of you therefore to pursue with care the admirable medical works with which our library abounds and to pay close attention to the lectures you may have an opportunity of hearing.

By following the plan of study which will be marked out for you, you will I trust find yourselves insensibly acquiring an intimate knowledge of your profession, a knowledge which will never desert you in the time of need; the great advantage of which you will daily experience, when you go forth into the world to practise for yourselves. If, on the other hand, you neglect these opportunities, opportunities never again to be recalled, you will soon have cause deeply to lament your idleness. No situation is more pitiable than that of the medical practitioner who finds himself at the bedside of a patient affected with some dangerous disease, while conscious of his own ignorance and utterly at a loss to determine upon what plan of treatment to pursue, he beholds the unfortunate victim of his incapacity hourly growing worse, and gradually sinking to the grave from which he has no power to rescue him. Unless indeed some lucky chance occurs, which this ignorant has the degradation to know to be the effect of some unforeseen good fortune and can in no wise be attributed to his skilful management.

How different are the sensations of the studious and skilful practitioner under the same circumstances. He is confident that, as far as human art will permit, he is capable of assisting to the uttermost, the suffering individual before him. He has no legitimate source of regret for ill-spent time—no stings of conscience upbraid him, that the fatal result is owing to his ignorance or inattention. He has done all that lies in his power; he has performed his duty and is satisfied.

He feels, on the other hand, a proportionate degree of satisfaction if his efforts are crowned with success. If the termination of the case be favorable, the knowledge that his power and well-directed skill may have contributed to produce it, amply rewards him for the labor he has expended in acquiring the requisite qualifications for his profession. Let me hope that you will take part with the latter and that you will strive to emulate his course. Let me repeat to you that the science of medicine is one of the noblest arts to practise, to which an intelligent and well-educated man can possibly devote himself. The Physician wields a power which is capable of affording the purest happiness, the most valued of all blessings to his fellow creatures. By the skilful exercise of his art he saves mankind from misery and premature death. He restores peace to the wretched

—he administers consolation to the unhappy, he gives life to the dying. By the timely interposition of his aid he is enabled to rescue from the fangs of disease, from the jaws of death the most valuable members of society, the benefactors of the human race; the great, the learned, the virtuous. And in the humbler walks of private life his labors are equally valuable. While he affords to the suffering individual himself corporeal ease and mental tranquility, by restoring to the bosom of an afflicted family some loved member of their circle, the support of their existence, the joy of their hearts who is about to be snatched from them by some terrible disease, what happiness does he confer? what frightful misery does he remove?

The practice of our profession, gentlemen, may occasionally be embittered with disappointment and annoyance, and where shall we find one that is not, but these drawbacks are more than counterbalanced by the unalloyed satisfaction, the unspeakable pleasure which such deeds as these produce!—*The India Journal of Medical and Physical Science*. July 1, 1836.

#### MR. J. MCCOSH'S INTRODUCTORY LECTURE ON CLINICAL MEDICINE.

*Delivered at the Medical College, Calcutta, May 1837.*

GENTLEMEN, - In compliance with the orders of the Right Honourable the Governor General of India, I have the pleasure to introduce you to the study of clinical medicine, or, in other words, to present to you disease as it actually exists at the bed side of the patient, together with the treatment adopted for its cure.

I will not adduce arguments to convey to you the paramount importance of Clinical Medicine. Your own intuition will tell you that success in it is the ultimate and only object of a medical education, and towards the judicious management of which the whole of your present course of study is directed.

The career in which you are now engaged opens up a new field for the welfare of your fellow-countrymen and establishes a new æra in the history of Hindostan. You are selected as the medium through which the blessing of enlightened medical science may be rendered available to thousands, that would otherwise have been left at the mercy of the ignorance and quackery of the bazars. The eyes of the benevolent are now upon you, marking your progress and wishing you success, and your future prosperity in the world will hereafter be measured by your present application.

I must consider you as having already laid the basis of your future medical proficiency in a competent knowledge of Anatomy and Physiology, of having become intimately acquainted with the fundamental principles of Chemistry and Pharmacy, of having been initiated into the great doctrines of Physic, and having acquired as elementary a knowledge of your profession as possible, without the advantage of the hospital to see your theories confirmed. Indeed, I have been highly gratified in witnessing your attainments in these branches at the weekly examinations. Your knowledge was very creditable to yourselves, and must have given much satisfaction to your instructors, and I have only to wish that the principles I have to advance may receive the same share of your attention, and make the same impression on your memories.

You have hitherto been conversant with things tangible and material, but you must now prepare yourselves to deal with things intangible and immaterial. In Anatomy you had the recent subject before you, and could

demonstrate, to the satisfaction of the most sceptical, every bone, muscle, nerve, and blood-vessel. In Chemistry you could estimate the truth of its doctrines by weight or by measure, or by the palpable evidence of your own senses. In Surgery you could take the knife into your hands with confidence, and know where to cut, what to extirpate, and what to leave without doubt or hesitation; but you will find a wonderful difference when you enter upon the department of medicine.

You will be called on to treat diseases the seat of which is obscure and uncertain, evils that lie lurking in the constitution and probably are conjectured to exist only by a jar in the pulse, the state of the tongue, the color of the skin, the temperature of the body, or the alvine evacuation; ailments that take possession of one organ, and are only to be detected by an affection of some other organ very distant; protean maladies, that counterfeit most of the ills that flesh is heir to, and every day exhibit themselves under some new form. You already know the general effects of each particular medicine, but practice will shew that idiosyncracies exist, wherein your prescriptions will have actions very different from what you were taught to expect. You may give a few grains of calomel as a purgative to one individual, and with safety and success; while in administering the same dose to another, and with the same object in view, you may possibly bring on profuse salivation, the loss of teeth, and frightful deformity. You may prescribe venesection at one stage of a fever with the happiest consequences, whereas, if made use of a few hours before or after the proper moment, no advantage is gained, or perhaps fatal consequences ensue.

It would be inexcusable on my part were I to point out only the shades of the picture and leave you in anticipation of nothing but difficulties and dangers. Like every other profession, the medical is chequered with what is pleasing and grateful, as well as with what is unexpected and disagreeable, and if at times we are apt to be downcast with the unfortunate issue of things beyond our control, on the other hand we have bright moments of enjoyment that dissipate the darkness of these gloomy spots and throw a cheerful light along our professional path. If to restore the blind to sight, the lame to activity, and the paralytic to strength; if to dispel misery and suffering and replace them with sound health and hilarity; if to rescue the talented, the innocent, and the beautiful from an untimely tomb, and restore them to the society of their afflicted friends, and their usefulness to the world; if such objects as these have any charms for you, you are now in the straight way to realize them; for such are the ends of Medicine.

You will at the commencement of practice find yourselves in your homes strongly armed against disease; but when you are summoned to an encounter with death, you will be apt to be panic-struck; to forget where all your weapons are disposed, and allow the enemy to strengthen his stronghold before you make up your mind what course to pursue. To make use of a mode of expression which *all* of you must be qualified to appreciate, you will find yourselves in the situation of intelligent school-boys who have mastered the grammar of a foreign language, who have become able to write it correctly, to read it fluently, and to understand it when read, but when they first attempt to enter into conversation with a native of the foreign country, they are perplexed and confused, and probably unable to explain their meaning. As they continue to persevere, words they had forgotten rise up in their memories as if by instinct; their confidence in their own acquirements increases; they begin to feel the benefit of their study and application; and, in course of time, converse with ease and elegance. Such, I have no doubt, has been the predicament of one and all you in your acquiring the English language; and such feelings you must prepare yourselves to experience, on entering on the practice of medicine. The

former you have already mastered ; the latter I trust you will with no less success overcome.

In qualifying yourselves for the practice of Medicine you must not imagine that proficiency consists in the mere routine of being able to prescribe certain doses of physic in certain complaints, or a blister, a seton, or an issue according to the best approved mode of practice. Such, though the necessary, are not the highest qualifications of the profession, and he who aspires to nothing more will be little better than a quack.

There is not one of our mental faculties but is of essential service in the practice of Medicine. Good sense, good temper, observation, and discretion ; patience, perseverance, fortitude, and self-possession ; firmness of purpose, steadiness of character, integrity of principle, are all component parts of a great physician.

There is perhaps no art and no science the knowledge of which may not be available in the treatment of disease. An extensive knowledge of natural philosophy is as important as the philosophy of the mind, and to be able to cure the diseases of the mind is often as necessary as those of the body.

By a knowledge of Mechanics you will appreciate the wonderful skill and science displayed in the formation of the human body, the lubrication of joints, the force of muscular action, the wedges, the pulleys, and the levers put in use in the system. By Pneumatics you will understand the mechanism of respiration, and be enabled the more easily to detect any irregularity in that function or remove any obstruction. By Hydrostatics you will the more easily comprehend the circulation of the blood, the valves of the heart, and the other flood-gates along the circulating canal. By Optics, the mechanism of the eye and the theory of vision. By Acoustics, the nature of sound and the organs of speech ; while Chemistry, and Surgery, Electricity, Galvanism, and Magnetism will enable you to put in force new agents in curing disease. There is not one of our external senses but will be of constant use to you. By the eye you will judge of all external affections and all external symptoms of inward disease. Though you might not think hearing indispensable, nevertheless it may be turned to the greatest advantage, and one of the most important improvements of recent years, in the investigation of disease, has been wrought about by that sense conveyed through the stethoscope. The organs of taste and smell have also their uses ; by the former we are able to discriminate between some diseases of the urinary organs, and by the latter various sores and ulcers from one another, as well as the changes they undergo even without seeing them ; and the most precious gift a physician can possess, the most valuable of all his senses, and probably as valuable as all the others put together, is feeling, the "tactus cruditus," or learned touch emphatically so called. By means of this one sense we detect fractures of bone and dislocations of joints, deeply seated abscesses and œdema of the skin, hernia from hydrocele, and a stone in the bladder, from other affections counterfeiting its symptoms.

But it is one thing to possess the perfect use of our senses, and another to make a proper use of them. A man may find his senses very perfect in the ordinary affairs of life ; he may have the eye of an eagle and the ear of deer, and yet be able to make but an imperfect investigation of disease. You must prepare yourselves therefore by careful attention to all you see and all you feel, by a steady course of observation, guided by sound judgment, before you attain to much proficiency in the nice discrimination of disease.

Now that I have stated to you the instruments by which disease may be investigated, I shall now introduce you generally to the most prominent symptoms of disease. I expected ere this time to have had a regular field



for Clinical Lectures, and to have had it in my power to exemplify the treatment, from cases under your own observation ; but as the necessary arrangements have not yet been carried into effect, I hope I shall be able to occupy your time no less advantageously, upon subjects of general moment, till an adequate number of clinical cases is provided for your inspection.

The following preliminaries I beg particularly to impress upon your remembrance.

Before you can properly determine on any mode of treating a body diseased, it is indispensable that you be acquainted with the state of that body when in health. It would be no easy matter to lay down a standard of perfect health, with which you could compare the case of every patient under your care as you would his size and weight with that of a statue, and to be able to say such a patient was so many degrees above or below the just standard of health ; for every man has a standard of his own that would be applicable to no other, and by which alone his health must be estimated. One man may have a pulse ten beats a minute above the average ; another ten beats below the average, and both may be said to enjoy good health. A state of constitution that is conducive to health in one man, would be the cause of certain disease in many another. One man may require some drain upon his constitution to preserve him in health that would be dangerous in the greater portion of his acquaintance, and another may consume a certain quantity of animal and vegetable food and with advantage, that would be death to many others probably enjoying as good health as himself. Hence arises the first general maxim, on being called to a patient, viz. to ascertain the state of the system ; his habits and custom, when well. In doing so you will ascertain the constitution of the patient, whether of active or passive habits, whether temperate or dissipated, whether plethoric or phlegmatic.

You will in general find that plethoric persons are the best subjects to deal with ; in them the healing powers of nature are stronger, diseases of most kinds are more tractable, and a smaller dose of medicine is sufficient. You must at the same time remember that disease in them, when it does happen, is more rapid in its course, and requires to be met with more vigorous treatment.

Of the two temperaments, the plethoric and the phlegmatic, those of the latter are the most sickly : they generally require a larger dose of medicine ; disease in them, though less rapid and requiring less active treatment, is more tedious and more difficult to cure, and altogether the treatment of them is less satisfactory.

There is a modification of the phlegmatic temperament which may properly be called the splenetic, which you will frequently meet with amongst your countrymen. This is known by extreme debility and paleness or blueness of countenance, a peculiar pearly bluish colour of the sclerotic coat of the eye, and, in most cases, by enlargement of the spleen. In such subjects you must be very cautious in the use of mercury, for very distressing consequences occasionally ensue, in giving even moderate doses of such cases.

You will find the countenance an excellent index by which to ascertain the constitution as well as the intensity of disease. Observe whether it is flushed or pallid ; anxious or complacent ; wasted by long suffering, or distorted by acute pain. Every man is more or less of a physiognomist, and physiognomy is no where more useful than in medicine. Many diseases manifest themselves in the countenance so as to be detected at first sight. Cholera, consumption, fever, and many other diseases, have each its peculiar aspect, and with a little practice you will be able to form a pretty correct idea of your patient for better or worse, as soon as you enter his room.

As part of the countenance and the most expressive part, let the eyes attract your attention : observe whether they are unusually prominent or sunk, whether red from inflammation, or yellow from transfusion of bile, whether the pupils are dilated or contracted, whether they are insensible to light or intolerant of it. In some affections, people see better at night than during the day ; some see well enough during the day but cannot see at all after dark ; some see objects double, and some mistake one colour for another. From the eyes to the ears the transition is easy. Enquire whether there is any ringing or unusual sound heard ; whether they are impatient of noise or dull of hearing.

The pulse is the grand register of health, and disease may be detected in it when no other symptom is apparent. Let the pulse be felt without discomposing the patient, or if any emotion is occasioned, wait till it subsides. The pulse is exceedingly easily affected ; any bodily exertion increases it, it rises ten beats per minute after a meal, and it may beat 6 or 8 times more frequent when the patient is erect than when recumbent. The affections of the mind alter it instantly ; the exciting passions increase it so, that it can hardly be counted ; and the action of the heart becomes audible even to a bystander ; the depressing passions diminish its frequency as rapidly, sometimes suspending it entirely, and producing instant death. The pulse is generally felt over the radial artery, near the wrist and with the fore and middle fingers, or all of the fingers applied. The thumb is objectionable as liable to deceive from its containing a pulse of its own. Any other large artery would answer the purpose equally well. Sometimes it is necessary to feel the pulse in the humeral or femoral artery, when the radial beats too feebly to be felt, and sometimes even these fail, and the movements of the heart are to be felt only over the great coeliac artery, and sometimes the heart itself cannot be felt at all.

In childhood the heart beats above 100 times a minute ; at puberty, about 80 ; at mature age, about 76 ; and advanced age, as low as 60. Some people have a pulse as low as 50 or 40 and even 30 and 20 in a minute, and yet enjoy good health.

Quickness of pulse is not alone a symptom of disease. In many affections it beats slower than in health, and in diseases no less fatal. The strength of the pulse is a better criterion and you must accustom yourself to discriminate between a hard or a soft pulse ; a wiry or a thready ; or a regular, irregular, or intermittent pulse.

Some medicines have the property of decreasing the velocity of the heart, and are frequently prescribed with that intention in vain. The blood drawn from a vein will often assist you in the treatment of disease : when it is cold and congealed, observe whether it is cupped or buffy. By cupped I mean turned up round the edges of the vessel so as to form a sort of a cavity cup upon the surface ; and by buffy, a lightish buff coloured coat or stratum on the surface, uncoloured by the red part of the blood. These appearances are generally considered symptomatic of inflammation. You may also observe whether the crassamentum or solid part of the blood is firm or fragile, whether the serum or watery part is in excess or not ; but I would not have you place too much reliance on these symptoms of the blood, as all of them are liable to deceive.

Observe the respiration and whether the breath be hot or cold, offensive or sweet, regular or convulsed ; of the natural frequency or increased. A man makes about 20 inspirations in a minute ; a woman generally a few more, and a child more than either ; sometimes as many as 30 or 40. Respiration is not necessarily performed by the mouth or nose : so far as life is concerned, a person might breathe through an aperture in the trachea, and in some obstructions about the throat life is to be prolonged only by such an artificial opening, but in such cases the voice is lost.

The voice is a good diagnostic of disease ; mark whether it be weak or strong, or tremulous or whispering, or hoarse or shrill, or nasal or ventral, or laborious or attended with cough. The expectoration must not be overlooked ; whether scanty or copious, mucous, purulent, or bloody.

Let the tongue next occupy attention ; it is one of the best guides to direct you. Observe its shape, whether round or flat ; whether moist or clean, as in health ; or dry and furred ; or studded with spots or vesicles ; or loaded with a coating of white or yellow, or brown or black. There are few affections of the body with which the tongue does not sympathise by exhibiting some such coating, and one of the earliest and surest signs of improvement, is manifested by a change on the tongue. From the inveterate custom of this country the practitioner is deprived of all assistance from the tongue in native practice ; for it is generally so dyed and loaded with *pawn*, as to obliterate most traces of disease.

After the tongue the stomach is the next object of investigation : it has still a closer sympathy with disease than the tongue ; for the tongue only sympathises with the stomach, and records disease at second hand, the affection of the stomach preceding it.

Most people in good health are unconscious of having such a thing as a stomach, unless it be from the cravings of hunger ; but when immoderate appetite or no appetite at all, or appetite for uneatable things, or when eructations of wind or heartburn, or squeamishness or vomiting or unquenchable thirst ensue, these must be considered as symptoms of disease which, wherever it exists, it is your duty to detect. When opportunity offers, examine the contents of the stomach, whether the matter ejected be indigested food, or watery, or bilious, or bloody, or purulent, or feculent. At the same time attend to the alvine evacuations and whether the dejections be of the natural consistence, or watery, or scybalous or slimy, or gelatinous or mixed with blood or pus, or obstinately costive. In good health a man may have two motions in one day, or one motion in two days.

The viscera of the abdomen you should on no occasion omit to examine. It is not sufficient that the patient does not complain of pain, nor that he says he has no pain when asked ; for disease of them may exist and he not be aware of it. Lay him along on his back, with his head low and his knees drawn up, and carefully feel all over the belly if there be any enlargement or tumour, or any pain on pressure, and if there be, mark it down as disease. Be on the watch to detect any sudden change of countenance or expression of pain, while making the examination ; as if any exist it will appear in his feature. But don't press your fingers violently under the ribs, and pinch his belly with the tips and nails of your fingers ; for even a sound man could not stand that without complaining. You will often be able to detect enlargement of the liver or spleen by a careful observation with the eye, which you may verify by feeling. Enquire into the state of the urinary organs ; whether the urine be diminished in quantity or suppressed, or increased in quantity and immoderate, whether voided with ease or with difficulty, or only in drops, whether it be clear or turbid, depositing a sediment or retaining some coloured substance in solution. You must not consider all of these as symptoms of disease ; for the urine undergoes many changes even during the enjoyment of health and according to what is eaten and drunk.

From the bladder to the skin the transition may seem abrupt ; but you cannot judge of the one without attending to the other. The kidneys and the skin both unite in draining the system of superfluous moisture ; they alternate in their action, and as that of the one is increased, that of the other is decreased. The skin in the natural state is soft and smooth, and lubricated with insensible perspiration : this is more abundant in hot weather and less abundant in cold. A dry, harsh, rough skin is therefore

unnatural; in sickness it is an object to restore the perspiration, and in fever such a transition is always a desirable omen. Next to the softness and moisture, the temperature of the skin claims your consideration. The heat of the human body is about 60° Fah. When it is much above that standard or much below it, there is something wrong. In fever the temperature of the body rises as high as 112°. It is a remarkable fact that the body retains its temperature almost unaltered in all climates, whether exposed to the snow on the Himalaya mountains or the hot winds of Central Hindostan.

Another criterion by which to judge of disease is sleep. No man can be said to be quite well who does not enjoy his natural rest. Seven or eight hours' sleep is a liberal allowance for all the purposes of life; less than six is too little, and more than eight mere slothfulness. In all severe diseases sleep is more or less disturbed, and the return to sound sleep is welcomed as a favorable change. Excess in sleeping is as frequently the symptom of disease as the want of it, and wherever you are inclined to sleep more than nine hours of the twenty-four all is not right.

The state of the mind should never be overlooked. Many, very many, diseases of the body are induced by distress or anxiety of mind, and the cure of the body is to be attempted by ministering to the mind diseased, the original source of the malady. We are frequently able to make favorable or unfavorable prognosis from changes of the mind, and delirium supervening in fever is always a bad prospect, whereas coherence returning is a good one. Many popular notions of disease are founded (and, probably, in many cases, correctly) upon the sudden accession of melancholy or despondency, or cheerfulness, or ill nature. This last symptom in a hopeless case is always hailed with joy, and nothing gives greater pleasure to the desponding relations, than to get heartily abused for their attendance. Another grand secret in the diagnosis of disease is sympathy. Throughout the system there is one continued sympathy or association, by which the affection of one organ is manifested upon some other organ apparently unconnected with it, or at a distance. A blow on the head induces sickness at stomach and vomiting, inflammation of a joint occasions fever and its concomitants, and a deeply seated abscess is followed by redness and pain in the integuments.

The uterus and the mammae in the female and the testes and urethra in the male alternately sympathize with each other, and any affection of the one is liable to be followed by some affection of the other.

Though sympathy is very often useful in tracing disease to its just cause or head, yet you will often find it misleading you, and putting you on a wrong course. A man may come to you for advice with a swelling in his axilla, which you try to reduce by leeches and without success: despairing of your working a cure, he goes to another practitioner, who discovers that he has got a sore on his arm or hand. He pays little or no attention to the swelling in his patient's axilla; his whole attention is devoted to the arm or hand; he cures the hand, and the swelling gets well of its own accord. You must therefore be very careful in distinguishing between the original disease and the sympathetic disease, and not be led away from treating the evil at its source to that of some of its branches.

As some of the diseases that attack the human frame are the result of the common course of nature, rather than of man's intemperance and indiscretion, so in like manner some diseases improve and get well in the common course of nature, independent of the surgeon's knife, or the physician's pill.

There is a power in nature, a "*vis medicatrix naturæ*," as it is called, which guards over the human body, and protects it against disease; and though this guardian power is frequently thrust aside by violence, or imposed upon by the silent inroad of disease, it is still nigh at hand to

repair the injury, or direct things to a healthful termination, whenever a favourable moment for action presents itself.

If a grain of sand falls upon the eyes, a gush of tears is instantly discharged, by which the offending substance is washed away.

If any thing acrid lodges upon the lining membrane of the nose, a fit of sneezing follows, and convulsive blasts are sent through the nostrils to blow it out.

If any substance is by accident received into the trachea, violent coughing instantly causes to eject it. If any dangerous poison is taken into the stomach, it is most likely thrown up again by vomiting, and if any thing crude or offensive lodges in the intestines, diarrhoea ensues, and generally carries it off. If a man loses the sight of one eye, that of the remaining eye becomes more acute. If he loses the hearing in one ear, that of the other ear becomes more sensible to make up the loss. People born deaf have generally remarkably good eye-sight, and the senses of hearing, touching, tasting, and smelling, in the blind, often strike us with surprise at their perfection. So in like manner a man that is dwarfed in one leg or arm has his remaining limb of a strength and proportion above his compeers.

If a piece of skin is abraded, nature forms a temporary shield in the form of a scab or eschar, under the protection of which she forms a new skin, and as soon as it is matured, the eschar is thrown aside as useless.

If a finger or a toe be cut off and immediately replaced in apposition, nature will in many cases effect a union. If mortification of a limb ensues, nature performs the amputation of the useless members in a manner peculiar to herself; so as not to endanger the life of her patient by hemorrhage.

If a man receives a wound from a cutting instrument, nature unites the two cut surfaces by a deposition of lymph, as you would two pieces of China-ware with cement, and in a day or two the union, by what is called the first intention, is complete.

If a man falls from a house and breaks his leg, nature soon after begins to mend it. A quantity of callus is deposited round the broken bones as you would form a luting of clay round two pieces of broken glass, and the bones are in course of time united. If an extraneous substance is lodged in the body, nature commences a process for expelling it. The part around the extraneous body inflames, and suppurates, ulceration opens a canal to the surface, and the irritating substance is ejected.

It is to this healing power inherent in animal life that all our art and science in the management of disease are indebted, and unless it existed, all our skill would be in vain.

Hence the grand object in the practice of our profession is to work upon this power, to remove obstructions to its action and encourage it, to correct its aberrations (for, like all things human, however perfect, it too has its aberrations), and to guide it to a favourable issue.

You will do well to divest yourselves of all distinction between medicine and surgery, and to consider the one as the right hand, and the other as the left, of the art of healing. He, who would treat disease most successfully, must combine the manual dexterity and anatomical knowledge of surgery with the practical experience and physiological science of physic, and be able to handle the knife or the saw, or administer a purgative or soporific, as circumstances require. In Europe the distinction between the two professions is scarcely known, and in India it has no existence.—*The India Journal of Medical and Physical Science*. June 1, 1837.

## PRINCIPAL BRAMLEY'S REPORT.\*

In the following pages I have the honor to submit my Report upon the rise, progress, and present condition of the Calcutta Medical College under my charge. The detail of the proceedings of myself and my Colleagues, the Professors of the Institution, and the minutiae into which I feel it my duty to enter, as to the character and general condition of our pupils, may, at first sight, appear to have led me into somewhat too prolix an account of what has been done, and of what it is reasonable to anticipate as the consequence of our efforts; should any such impression be produced by the length and bulk of the report now before you, let me refer for my excuse to the singular importance of the Institution, and paramount necessity of my laying honestly, openly, and sincerely, before the Government and yourselves, such a history of the first Anglo-Indian Medical College, as may lead to a just and impartial decision as to its utility or its uselessness, its demerits or its deserts.

My report is that of one who pretends to do no more than render in terms as clear and succinct as he can make them, a plain statement of things as they have occurred, and as they are.

Any attempt at rhetorical display would be, even supposing I could hope to achieve it, entirely out of place in a paper devoted, as this is, to matter of a purely practical nature. I am too fully impressed with the magnitude of what I have to submit to you, to enter upon its detail with other than feelings of extreme diffidence; yet, a consciousness of the interest with which the question is surrounded, emboldens me to hope, that as the material contents of the report will be more looked to than its mode of expression, my inadequacy as a writer may be forgotten in the importance of my subject.

I deem it unnecessary to dwell on the circumstances which originally led to the formation of the present Medical College, as these have already appeared before the public, in the printed Report of a Committee appointed by the Right Honorable Lord W. Bentinck in 1833, to inquire into the then existing Native Medical institution.

It is sufficient to state, that the result of that Report was the promulgation of a General Order, by the Supreme Government, dated 28th Jan. 1835; in which it was directed that the Native Medical Institution under the superintendence of Dr. Tytler and the Medical Classes at the Sanskrit College, and at the Madrassa should be abolished, and a new Institution formed, in which Medical science was to be taught on European principles; through the medium of the English Language. A printed copy of the order in question I have herewith the honor to annex. (Vide Appendix, No. 1.)

The Institution of the present Medical College has been attended, at all its stages, with difficulties of no common order. At the very period of its foundation, a discussion between the advocates of different systems of Anglo-Oriental education was carried on with much vehemence by either party, and it appeared that to ensure the success of the educational system on behalf of which I was interested, it would be incumbent upon me to adopt such a line of conduct, as, without compromising me with this or that set of Opinionists, would enable me to carry through my own views with merely a nominal attachment to either. I esteem myself not a little fortunate in having succeeded in keeping aloof altogether, from even a connexion by name with the partizans of different declared systems of educa-

\* This Report was found among his papers, after Mr. Bramley's death. It will be seen to be incomplete, as it breaks off abruptly, and the Appendices alluded to were not to be found. It is, however, exceedingly valuable, even in its imperfect form, especially for the suggestions it contains in reference to the education of the Indian youth.—Ed.

tion, since the newly formed institution was hereby constituted neutral ground upon which all might meet, by which all might benefit, and on which none need be compromised.

The advantage of the position thus obtained will not, however be fully understood, without a glance at the difficulties with which, at the first adventure on a new system of education, I found myself necessarily surrounded. I had undertaken (upon a conviction of its feasibility, it is true) formation of a school of Medical Science, wherein instruction was to be conveyed through the medium of English, but, however confident in my own opinion, of what might be thus effected, I did not the less feel the heavy responsibility on first pledging myself to Government to persevere and prevail in a cause wherein I not only staked my own professional reputation and prospects, but the success of the system of whose rectitude I was convinced, and in which I was so deeply interested.

The most obvious of my initiatory embarrassments were the following.

1st. "Whether a Hindu Class of Medical students could be formed at all for the study of the science on the European system, the peculiarity of their opinions, and the supposed pertinacity of their prejudices being duly taken into consideration.

2nd. Whether it were possible to find a number of youths sufficiently advanced in elementary knowledge of English, to enable them to receive with profit, the instruction proposed to be given.

3rd. Whether the small Government stipend were sufficient to induce young men to devote the best years of their life to the acquisition of a description of knowledge, the benefits whereof were, at the best, prospective, and the effect to the students and their friends, uncertain.

I do not intend to dwell upon my difficulties, but it is necessary for a full comprehension of the subject, that I should allude to them, and I feel it to be my duty to do so in a somewhat marked manner, in justice to him through whose instrumentality, chiefly, they were surmounted. This zealous coadjutor and invaluable assistant was Mr. David Hare. Scarcely had the order of Government for the institution of the College appeared, before this gentleman, prompted by the dictates of his own benevolent spirit, having ascertained the objects of the undertaking and becoming convinced of the vast benefits likely to accrue from it, immediately afforded me his influence in furtherance of the ends it had in view.

His advice and assistance have been to me, at all times, most valuable; his frequent attendance at the Lectures, and at the institution generally, have materially tended to promote that spirit of good feeling and friendly union among the pupils, so essential to the well working of the system; nor must I omit to mention, that his patience and discretion have animated and supported me under circumstances of peculiar difficulty which at one time appeared to threaten the very existence of the institution. In truth, I may say, that without Mr. Hare's influence, any attempt to form a Hindu Medical Class would have been futile, and under this feeling I trust I may bespeak the indulgence of the Committee, in availing myself of the present opportunity to record publicly, though inadequately, how much the cause of Native Medical education, owes to that gentleman as well as the extent of my own deep obligation to him personally.

On reference to paper No. 7, in the Appendix, it will be observed that the majority of the students of the originally formed class had received their education at the Hindu College, or at Mr. Hare's school; hence, from the earliest period of the undertaking, I had an opportunity of becoming intimately acquainted with most of them, through information derived from Mr. Hare, who was not only familiar with their habits and their mode of thought, but with even the individual history and character of every youth whom he brought into the College. I was thus enabled to

exercise in the first instance a wholesome influence over their minds which could not fail to be beneficial both to the pupil and teacher in the process of communicating and receiving instruction. As their instructor and (as I feel myself to be, and wish them to consider me) their friend, I was of course, after no long time, in a position to extend this influence in aid of official authority, but in so doing, the subject of my undertaking opened upon me in a new and I may say a more formidable light than heretofore.

My intention being to render these, the first pupils, not only proficient in the usual routine of Medical Science, but also capable of exercising their minds freely upon general subjects, in order to ensure the application, and not the simple acquirement of knowledge, I was much struck with the unwholesome and unsettled state into which their minds had been thrown, and with the imperfect condition of their physical powers, owing partly to the nature of their early education, as to what had been done, but perhaps more as to what had been neglected. I found the natural precocity of the minds of these native youths, fostered and forced into unnatural action, by being employed on speculative subjects before they had been taught or understood the nature of practical ones. The general taste of all these boys took, I found, in this respect the same bent and inclination; at the same time their moral condition remained unimproved, while their bodily powers had been allowed to deteriorate as unhealthily as their minds had been pampered into luxuriance. In a word, the great subject of *indirect* education, or that undesigned course of training which in the present day forms so prominent a feature in the educational systems of Europe and America, had been altogether neglected in the teaching of these youths. It became still more evident as my intimacy with them increased, that the exercise of their mental powers, more particularly of the alumni of the Hindu College, was directed to the consideration of abstruse metaphysical subjects, to the almost total exclusion of simple and ordinary practical matters.

They seemed to have mistaken the instrument for the end, by supposing that the cultivation was of greater moment than the fostering of other habits of the mind, which build up the future man. The spirit of inquiry and the remarkable, yet indiscriminate thirst after knowledge so strongly developed amongst them, had been made an agent rather of moral evil than of good, to beings like them of precocious mental powers and unsettled principles. Hence, and as a consequence, they had learnt to cherish a false estimate of learning, in so far that the test of acquirement was held among them to be, the extent of *abstract* rather than *positive* knowledge possessed by the recipient, or, in other words, that learning was with them of higher value than wisdom.

Thus, then, their minds, refined only so far as to engender morbid discontent with their present condition, and yet unfitted by sound moral and practical instruction, to enable them to place themselves in a position more agreeable and advantageous, were in danger of becoming permanently misdirected. Add to this the feebleness of body and the want of physical energy by which all were distinguished, and it will not be considered far from the truth, when I say, they came to me, men in intellect, children in constitution\*.

When fully possessed of the disadvantages above detailed, I felt it my duty to undertake the remedy, in as far as was possible, or as I could ac-

\* I cannot better illustrate this point, than by referring the Committee to copies of some notes selected from amongst many in my possession (vide Appendix No.—(a) which have been addressed to me by some of the most intelligent and talented of the pupils; but, as will be evident of talent exerted without definite purpose, or even the power of devising a proper object for its exercise.

(a) The letters here alluded to could not be found amongst the late Principal's papers.



compish, of the defects in the moral and physical condition among the pupils generally. The difficulty, however, of improving their bodily frames, was so great, owing to the pernicious effects in early life of sedentary habits and pursuits utterly unenergetic, as regards personal exertion, that I might almost characterize my efforts in the expressive words of an ancient authority, as "teaching them to live after their best days had passed."

My motive in bringing these particulars to the prominent notice of the Committee, is solely with a view of inviting discussion and enquiry into a subject which I cannot but feel is vitally important to the interests of the great work of education.

I allude to the expediency of introducing as soon as practicable, and as part of the general system of instruction, such measures, as may tend to elevate at one and the same time, the moral, the physical, and the mental condition of the young.

Hitherto, education has consisted, simply, of school instruction, and it may be said, that as far as the experiment has gone, the system has been attended by satisfactory results; among other advantages, it has modified the evils of national prejudice, and has thus paved the way for future improvement; it has already diffused through a large number, a certain degree of positive knowledge, while in a still greater number, it has inspired a propensity to study and fixed a decided taste for the acquisition of European learning, and a strong disposition to respect it in others: admitting however, that these are benefits of no common order, and that as much has been done as could reasonably be expected, still it becomes a matter well worthy the consideration of those who are engaged in the business of teaching, as well as to the friends of education generally, to inquire whether the native mind is not capable of attaining a much higher standard than it yet has, by the operation of a system, in which *indirect* is blended with direct education.

It is foreign to my purpose, to enter at length into the merits of this question on the present occasion, nor am I, as yet, prepared to point out the means by which it may be carried into effect. I am sensible, that, before any plan could be framed capable of universal application, many obstacles would have to be overcome, and that whatever it might be found expedient to do, could only be effected gradually; for while it would be necessary to regulate every measure with a due regard to the condition and circumstances of those to whom it is meant to apply, yet, the national character continues such, that the indiscriminate or over-hasty introduction of any thing bearing the semblance of innovation, would be regarded with suspicion and distrust. I shall therefore, confine myself to a few brief remarks, to shew in what respects the subject calls for investigation.

Fully acknowledging the useful labours of those who are zealously devoting themselves to the advancement and dissemination of European knowledge among the natives of this country, it must, I fear, be admitted, when the subject is a little examined, that the effect of the present system can merely be regarded, at most as a foretaste of the good yet to come. It is certainly capable in some degree of making scholars, but we require something else before we can make good and wise men, which after all, is the great end of education.

It is true, that knowledge is power; but it furnishes the power to do evil as well as good; it follows, that misdirected and unassisted knowledge is mischievous in proportion to its extent.

Any person who will take the pains to ascertain the real condition of educated native youths of the present day, and for this purpose, will associate with them in private as well as public, will visit their abodes, and will inquire closely into their mode and habits of life and thought, will not

fail to remark the state of transition into which their minds have been thrown, the result of partial instruction irregularly communicated or administered. Their education has given them a new power of thought and reflection, but they are left without a proper agent to direct this newly acquired power aright, they have no agent to turn the bias of their minds to what is good, and this at a period, which generally decides the character of the future man. As a consequence, their ideas fall into a state of doubt and fluctuation, and in the end, if unassisted, are as liable to become permanently directed to evil as to good.

In England, where education mingles a domestic with a school life, combining the advantage which is to be derived from the learning of a master, the emulation which results from the society of other boys, and the affectionate vigilance of parents, the heart and head are educated at one and the same time. But in this country, and at the present time, there exists no indirect controlling power whatever, no natural example which the pupil is either enabled, or is content, to follow. For the Master's authority is confined to the School-room; and a European education leads the youth to despise the knowledge of his parent, and disdain his control, the great majority of youths in his position becoming necessarily elevated above their guardians in the scale of knowledge and in the rank they hold in Society. It may be as well here incidentally to remark that the description and nature of the European education given bears no positive reference to the station they are destined to hold, and the occupation they are likely to be engaged in; accustomed therefore to follow his own inclinations and unused to be thwarted, the youth becomes vain of his new acquirements, and, as I have myself too often seen, a restless ambition is induced, which renders him so little able to resist the commonest vicissitudes of life, that a slight stroke of disappointment is apt to be followed by indifference and permanent discontent. But if these defects exist in the morale of educated native youths, there are others not less apparent in their physical condition.

One great error in the present system, is, I am induced to believe, the propensity to over-educate. For example, I have seen a boy apparently not yet in his teens, called upon in the presence of a large assembly to solve an intricate mathematical problem, and I have seen him demonstrate it with surprising accuracy. But however conclusive this may be of mental capability, I consider the accomplishment of such a task, and at such an age, to be an abuse of the power with which the boy is naturally endowed. Experience proves, that the mind is capable of certain exertion only, and if it is overstrained or too assiduously employed, it wearies and declines, accomplishing much less, and expending its energies much sooner, than under moderate exertion it would be capable of doing. Before the studies of maturer years are stuffed into the head of a child, people should reflect on the anatomical fact, that the brain of an infant is not the brain of a man; that the one is confirmed and can bear exertion, the other is growing and requires repose. If this applies to children of every nation; how much more closely does it bear on those who form the subject of this inquiry. Mental precocity is the characteristic feature of the natives of Bengal, with natives there is the strongest reason why the mind should be restrained, rather than forced into undue action, for, the more it is fostered, the sooner it will be found to wear out.

Every physician knows, that precocious children are, in fifty cases for one, much the worse for the discipline they have undergone. In most of the remarkable instances of precocity which have been known in England, it has been observed, that the mind overstrained appears to have imbibed the seeds of insanity, or that at a comparatively early age, the originally acute mental energy has faded, and eventually, as age has advanced, dwindled into mere nothingness, that is, supposing the subjects to have lived to middle age which few of them have done. May not we thus account for

the popular, yet unproved assertion, that the educated native is notoriously shrewd and intelligent, to the age of twenty five, or thereabouts; but that after this age his mental power gradually deteriorates.

There are, however, it must be admitted, other circumstances besides physical which co-operate powerfully, in producing this decay of mental energy.

We cannot indeed take a superficial glance into the national condition of the people of Bengal, without tracing some evil or other in every state and each stage of their moral existence.

These, however, are natural evils, the effect of prejudice and ignorance, and on which the hand of time alone can work improvement. Before the moral sentiments can be truly cultivated, they must be felt: objects and examples must be presented, capable of exciting emotions, and then intellect may interpose to assign the just limits of their indulgence. The real antidote is undoubtedly education, but only when its results are properly administered and directed, and when, for the reasons stated, that the knowledge has not been acquired at the expense of too great mental labour. But, in addition to over-education, another and a serious defect in the present system of instruction is that the mind only is cultivated, while the body is left altogether neglected.

Native children are brought into school at an age when nature scarcely furnishes the elements necessary for a successful cultivation of the reason. There seems to be no provision, as yet made, for preparing the process for future learning; no preparatory schools in which by wholesome rules for physical management, and under good instructors, so much might be effected towards the formation of those principles, which in after life constitute the character of the man, and at the same time tend to promote his general health, and preserve his bodily frame in the full and vigorous exercise of all its functions. In short, no advantage is taken of the period when the child enters school, to excite a taste for those objects and pursuits which naturally delight him, such as those which impress the senses, move the heart, and invigorate and strengthen the constitution, though the age is most favorable for the cultivation of these, for it is then that the emotions are the liveliest, and from being as yet unalloyed by passion, are most easily moulded and controlled.

Instead of these, however, the child, at the tender age of six or seven years, is suddenly introduced into the school-room, where he is at once solicited to reflection, for which his mind has received no previous training, and what is still more faulty, he is, with very limited exception, kept under study the same number of hours per diem as the oldest boy in the establishment.

That such a system should be attended by pernicious results cannot be wondered at, when we reflect for a moment, that the mutual influence which the mental and physical energies exert over each other, is such, that in proportion as the nervous stimulus is unduly expended on the one, it becomes withdrawn from the other, or in other words, that the association between mind and body is so intimate, that unless a certain balance of health is maintained between the two, either the one or the other deteriorates.

Perhaps there is no class of beings in the world to whom this truth applies more closely, than to the natives of Bengal. To illustrate this I shall cite a fictitious case, but no single matter of practical importance shall be interwoven with the fiction which has not been fully corroborated by my own personal observation. I select for an example the zealous youth whose time whether in school or out of it is almost exclusively devoted to study. We find him in the first place, naturally endowed with a mind, capable of the richest cultivation, yet born under very unfavorable circumstances, for animal existence.

During the whole course of his studies, no attempt is made to counteract the effects of his mental precocity, but on the contrary it is forced into premature luxuriance.

He sits almost motionless in school from five to six hours per diem, during which time, his mind is closely occupied, though the objects to which it is chained may not be always congenial to its prevailing tastes and capabilities. He is allowed to assume whatever posture he pleases, having no adviser to correct those minor, but by no means insignificant defects, to which his sedentary habits and natural distaste for bodily exertion give rise. As the growth of his body advances, he may be seen, while at his studies, constantly leaning forwards, his shoulders elevated, his head sunk between them, and keeping most of the muscles wholly inactive. Respiration is generally imperfectly performed, and he takes a full inspiration only when he sighs. He lives in an impure and unwholesome atmosphere, and from being totally ignorant of the laws of health, indulges in sedentary habits and late hours. His clothing is nearly the same in summer as in winter; hence the circulation is unequally balanced, and his feet and hands during the latter season become unnaturally cold, from want of their proper stimulus. His diet though large in quantity, is insufficient in quality, and from the effects of ardent study and want of bodily exercise, his appetite, whether moderate or excessive, is generally greater than the power of digestion. As he reaches the period of puberty, his taste for study increases, the brain and heart become oppressed by incessant labour, and the effect of this is still further increased by the impatience and ambition which generally distinguish him. Under this excitement the nervous energy which digestion requires, absorbs, and before long the functions of the stomach and bowels become deranged. This is succeeded by a general torpor of the system in which the brain necessarily participates, or a high state of nervous irritability is induced. In either condition he becomes conscious of the inequality of his mental powers under different states of bodily health, and is sensible for the first time, of mental weariness. These symptoms are generally allowed to proceed without interruption, for he knows not the value of recreation either of mind or body, and does not feel himself sufficiently ill to seek medical relief. In a short time he finds the mental powers begin to fall far short of that energy which formerly distinguished him, while the irritability of the mind to which deranged health is prone, acts unfavorably on all the moral feelings; as the period of manhood sets in, the stomach and bowels become obstinately disordered, the secretions are vitiated, and as a consequence sanguification and nutrition are imperfect. The same moral and physical cause still operating to the prejudice of his naturally enfeebled frame, he finds that medicine merely palliates but does not cure him, so that by the time he reaches what ought to have been the prime of life, he is a confirmed hypochondriac, and in the end the body either wastes, consigning him to an early grave, or he becomes plethoric and bloated, so as to render life a burden rather than a blessing, 'Living to eat, rather than eating to live.' With these plain facts which my own experience and observation have supplied, we cannot too soon, or too earnestly consider the vast importance of Physical Education as forming a part of the general system of instruction. Indeed I am convinced, that without the systematic introduction of some means for regulating the Physical management of the young native from the very outset of his educational career, we never can expect to ensure a sound mind in a sound body, and unless we accomplish this, we rob education of one of its best and most important results.

But there is yet another most important item which has been overlooked in the educational system as it at present exists, namely, the organization of the ministers of instruction.

Without going into individual detail, I have but to appeal to the evidence which even very casual observation will afford, of the inaptitude of Europeans and East Indians to educate natives so as to combine the communication of knowledge with the regulation of their minds and the direction of their habits of thought. The cause is obvious: the interest of the teacher in the pupil ceases in a great measure when they separate on leaving the school-room. Well qualified as are many of the masters by the possession of information, they are unpractised in the mode of communicating it, and the effort of teaching is to them more or less a labour requiring rest and recreation after the close of the stated periods of instruction, in absence from the scene, and from the objects in and on which the effort has been exerted. The feelings of the masters are not in unison with those of the pupils, and the immense power of moral agency which, as Pestalozzi has practically demonstrated, may be created by working on the national character of boys under a course of instruction, is lost altogether.

Schoolmasters under the present system and in the present state of Education are necessarily Europeans or East Indians. They enter on their duties having to learn during the progress of fulfilling them.

The institution therefore of normal schools, and the creation of national instructors should be an object of the first, as it is of the most vital importance to those who desire to see the native youth *healthily* educated. I use the term in a moral sense to express the advantage which the mind derives from being taught wisdom not less than learning; from being stored not only with ideas, but with the means of rightly directing them.

This cannot be effected until pupils be placed under instructors who have been taught, not merely how to know, but how to teach, and who superadd to this acquired advantage, the requisite of an intimate knowledge naturally of the turn of thought and habits of mind of those placed under them. What I have already attempted to prove in the earlier part of this report, touching the moral condition of the national pupils educated under the present system, gives sufficient evidence of their inefficiency to act in the above capacity.

If they are themselves the victims of an incomplete mode of education, the hazard of employing such teachers risks the perpetuation of error, or perhaps worse still, the inculcation upon fresh subjects of the impressions of a diseased mind. All that such instructors, with few exceptions, could teach, is knowledge frittered through the mass of their own misconceptions; they can only excite the mental powers by involving them in a maze of speculation and unsettled reasoning, the counterpart of what they themselves indulge in. It may be urged that this, for the present, is unavoidable, and I confess that it is so; indeed, when the influences and prejudices which encumber the present system are considered, we cannot be held accountable for any of the faults or deficiencies I have here alluded to, and rather than that the great work of education should be checked, it would be better to hold by our present means. But that it is unavoidable, proves still more strongly the necessity of correcting a state of things so objectionable, and it affords the strongest argument for the immediate institution of normal schools, which may be regarded as the vital part of the required reformation. But the attempt to improve should be instantaneous, and what materials we have should be used at once in such manner as may at least have a tendency to commence the approach to amelioration. The pupils destined to a severe course of study, should, from the first, be trained to suitable gymnastic exercises, and during the first two or three years of their novitiate, the alternation of recreation with study, as part of the system of instruction, should be allotted to them, and they should be encouraged, by the presence of their instructor, to vie with one

another in feats of strength and activity: he, (the instructor) would thus, by mixing with them in their leisure moments, have ample means of improving his knowledge of their characters and habits of mind, which the strict discipline necessary in the school-room would never enable him perfectly to obtain.

Hence he would be enabled to convey indirect moral education to each individual as the mind required it, in the course of exercise and active amusement, by encouraging each one to give his opinion, or his idea on common subjects of general interest, those chosen being chiefly of a practical nature; he would correct their misconception on many points in this manner, while teaching them to think and reflect on useful and profitable every day subjects: supplying in as far as possible the want in this country of objects so constantly occurring in England, whereby the mind of the young inquirer may be at once enlightened, amused and excited to still further research. I have so carefully studied the application of this system to my own pupils, and although as yet but very partially enforced, I have found it of such immense advantage both to them and to me, that the subject generally might, I considered, be appropriately brought in my report to the notice of the Committee of Public Instruction.

The position in which I have been placed as a prominent agent in the cause of education has induced me to experimentalize upon the means of exerting a general beneficial influence upon the minds of the native youths, not less for the advancement of the institution over which I preside, than for the sake of the cause of instruction generally. Thus my object has been to teach the pupils to respect themselves, to form an accurate idea of the importance of the position they hold as future agents in aiding and enlightening their fellow-countrymen, and to look on the study they are pursuing in all its dignity as one of the first and most important of the sciences; I have endeavoured to shew them the value of self-respect and a real devotion to their profession, as inspiring respect to them and their calling among the population which surrounds them. I have endeavoured to prove to them that I am not only their instructor but their anxious friend, ready to advise and assist them, and desirous not less of their moral improvement and their general welfare, than to see them succeed, under the instructions of my colleagues and myself, in the honorable profession they have made choice of.

The above exposition of my policy with regard to the internal management of the Medical College, will account for the absence of any fixed academical regulations, other than of the simplest and most obvious nature. I have considered the whole of the attempt as purely experimental, and I have been guided throughout by the course of circumstances, intending rather to suit my arrangements to the peculiarities of my position, than increase my difficulties in the first instance, by establishing at the outset, regulations, devised in utter inexperience of the character and habits of those to whom they were meant to apply, or of the institution to which it was intended to adapt them.

These remarks, which have been insensibly drawn out to a length which I had not anticipated on commencing them, must, I feel, be submitted with an apology to the Committee for having occupied so much of my report with matter not immediately connected with the detail of the Medical College.

Upon this branch of the subject I now proceed to enter with as much conciseness as its importance will admit of.

#### (PART II.)

#### GENERAL INSTRUCTION.

On this point I propose to consider the nature and extent of the education already given, the means of instruction, and the general plan of teach-

ing. Hitherto the instruction conveyed to the pupils comprehends Lectures upon General and Practical Anatomy, Physiological Chemistry, Theory and Practice of Physic, Elements of Medical Botany and Materia Medica, Practical Pharmacy, together with hospital attendance.

#### ANATOMY.

Conducted by Dr. Goodeve and myself. The plan which I had originally designed, previous to entering upon the active duties of my office, was that of establishing systematic mode of teaching, and as far as means and circumstances would permit to frame the general instruction of the College on the mode of the English Medical Schools. With this view the operations of the College were commenced by the delivery of a course of lectures on the rudiments of Anatomical Science. There were several objects to be gained by this preliminary proceeding. In the first place the class consisted almost exclusively of respectable Hindu youths, who, though already possessed of fair acquirements in the elementary branches of general knowledge, were nevertheless wholly unprepared for the studies they were now about to embrace. It was important therefore, that their capabilities should be tested as soon as possible as to their power to receive instruction in a science, the very elements of which are crowded with technicalities, for whose etymology the English language forms no guide. In the second place it was essential to the well working of the general plan to ascertain, at as early a period as possible, the tastes and dispositions of the pupils, to receive instruction in a science to them perfectly novel, and under any circumstances by no means inviting at the outset, and the first approach to which must necessarily be made amidst the gloom of prejudices, and the confusion of ignorance.

Thirdly, it was expedient that the first step should be made in that branch of science which was destined to hold the capital place in the studies of the College, and also to experimentalize on the willingness of the students to be taught the first rudiments of their art by the actual demonstration of human bones. By this course a double advantage was gained. It enabled me to see how far their prejudices might be infringed on without hazard; while the selection of osteology to commence with, imposed a some-what severe tax on their patience and industry, as the subject is difficult, and at the same time dry and uninteresting.

A course of lectures was accordingly commenced on the 1st June 1835, opening with an inaugural address, explanatory of the general objects of the Institution. This discourse was introductory to a series of lectures on osteology which were delivered tri-weekly until the 30th September following. The subject was treated at considerable length, and many other points of anatomy and occasionally surgical observations, were introduced as opportunities offered. The intermediate days were occupied by those subjects which were touched upon in the lecture of the previous day, but which did not admit of more than cursory notice at the time, and could not be shewn to the pupils without interrupting the proper course of the subject under discussion.

In this way the large arteries, the principal muscles and nerves, &c., which during lecture were spoken of as connected with any particular bone, were explained and demonstrated on the ensuing day. During the osteological lectures the subject was taught entirely upon human bones, which after lecture were placed in the pupil's hands for their individual observation and examination, and were closely studied by them.

Not the slightest repugnance was shewn at any time in this proceeding; indeed the youths appeared rather to exult in overcoming their national prejudices in these matters. The auxiliary demonstrations were made upon the valuable plates in Cloquet's celebrated work presented to the College by Dr. Duncan Stewart; by Lizar's plates; those of Tuson and the

Papier Maché models of the human frame which the College possesses. In this manner the students, as far as such means would enable them, acquired a practical knowledge of the subject before them, and during these three months made such progress as to leave no doubt on the most sceptical mind of their power to comprehend what they had been taught. Examinations were also held regularly on each Saturday, and these were generally conducted in the presence of medical gentlemen who on my invitation frequently took part in them.

The result of these examinations evinced the utmost promise on the part of the pupils. In so short a time they were not expected to be expert osteologists, but it was satisfactory to observe that what they had learnt they understood. I think it right to mention this in order to meet an assertion which has been often advanced in regard to the minds of young natives, namely, that their ideas are rather limited to be learning of words, than the comprehension of things. This would no doubt be the case, did we not take the means to prevent it, for their natural precocity of mind is such as to render the acquisition of rote learning, to almost any extent, a matter of easy accomplishment. But it is scarcely necessary to say that to obviate such an evil we have but to watch and investigate their gradual progress, and ascertain by personal scrutiny that the results of the instruction given convey such kind of knowledge as is best calculated to ensure the development of ideas of practical utility.

The College having closed during the holidays, re-opened on the 1st October 1835, when a more extended course of lectures on Anatomy was commenced which continued till the 31st March 1836. During this course the bones were again taught, the muscles, and arteries, nerves, viscera of the thorax and abdomen. Brain and organs of sense were separately considered. A considerable portion of physiology was likewise included in the lectures; some points of the latter as well as a few less important parts of anatomy were however omitted, because it was thought unnecessary to enter upon the minutiae of the science at that time, the object being rather to dwell on and impress on the minds of the pupils the broad principles of the science, with the view of preparing the process for learning that which was yet before them. Bones, plates, and models, again formed the chief materials for illustrating this course, but occasionally portions of animals lately dead, and in a few instances, parts of the fresh viscera of the human subject were introduced for demonstration. The progress made by the students was, as usual, tested by weekly examination, and it was gratifying to observe the interest taken in these by the numerous professional gentlemen who attended.

The advancement the students had made was fully proportionate to the more extended range of instruction given. The technicalities of anatomical science, chiefly derived from the Latin and Greek had been acquired with singular accuracy, and could be used and repeated by almost all the pupils with fluency and correctness. The observance of Dugald Stewart's precept 'that it is in many cases a fortunate circumstance when the words we employ have lost their pedigree' will account for the precise etymology of these terms having formed no part of the system of instruction. All that has been taught of their origin is such explanation of their derivation as would suffice for a proper comprehension of their general applicability and adaptation to the parts which they are intended to represent. Thus were a student questioned on the meaning of such a term as *sterno-cleido-mastoideus*, there is scarcely one who would not readily explain that it signified a muscle whose origin and insertion was denoted by its name, as *Sterno* to the Sternum or chest bone; *cleido* to the clavicle or collar bone, and *mystoideus* to the mastoid, or nipple-like process of the temporal bone. The same means to prevent superficial learning were



throughout this course rigorously adopted, but the system under which we were compelled to teach, afforded in itself the best security against its introduction, for we had not, and have not up to the present time, a single class-book in the Institution, and I believe it to be almost impossible to acquire by rote, that which is taught only by Lectures orally delivered in connection with objects under demonstration. The beneficial results of this plan of teaching are constantly rendered apparent during the periodical examinations, where the custom is now established of calling upon any of the pupils to demonstrate a bone, and requiring him to explain and point out its relative position, its connections, its various processes and foramina, with the parts attached to or passing through them, and their ultimate distribution. These are described with surprising accuracy by the more studious and intelligent students, who will moreover prove their knowledge of the subject by answering almost any question which may be put, out of the immediate train of the examination.

The summer session from April to September having been occupied by lectures on chemistry and the practice of physic, the second regular anatomical course did not commence till October 1836. The introductory Lecture to this course, delivered by myself, was made as public as possible, and was honored by the presence of the Right Honorable the Governor General and a large body of distinguished persons both native and European, whose visits on this, as upon all occasions, are of material service to the College, in marking to the pupils, and the native community the interest which the Government and the European public take in the prosperity of the College, and the importance they attach to it as a national Institution. Up to this period actual dissection which was destined to be the chief feature of this course, had not been practised by the class. If it had been desirable, no conveniences were in readiness for the purpose during the previous cold season, which is the only time such operations can be practised in this country. But under any circumstances, it would not have been advisable to put the dissecting knife into the hands of the students until they had acquired some familiarity with the nature and situation of the parts they were about to examine, nor until their moral training had been so ripened as to admit of the final, yet all important experiment being essayed, without risking the interests of the Institution. The attention they had paid to their late studies, however, had now placed them in a position to profit by this method of acquiring information so absolutely necessary to a medical student, and it was determined to seize the first favorable opportunity for introducing them to the practical study of anatomy.

From the peculiar customs of the country in exposing their dead, the students were already familiar with the presence of the human body, and however strong might be their other feelings upon this subject, the superstitious fears of the dead which prevail in England did not exist here. For the most part also the students looked with contempt upon the ignorant prejudices of their countrymen, and it was most delightful to witness the spirit current amongst them, to raise themselves above the evils of their condition. I regarded this as an incontestible proof that their professional studies were producing their proper effects, and in proportion as this spirit developed itself, my confidence as to the result of the experiment became strengthened. A large portion of the class had already witnessed with interest the examination of bodies which had died in the hospitals they visited. Many of them moreover had been accustomed to handle and examine the portions of diseased structure which they met with on these occasions, and with very few exceptions anxiously awaited the arrival of the period, when they might display their zeal in the cause of science. But it was necessary to proceed with considerable caution, to

take care that they were not too abruptly introduced to this new department of study, and that when entered upon, each step of the proceeding should be conducted under the most favorable circumstances. Dissection is seldom approached by the uninitiated even in Europe, without feelings of aversion, and it was much to be dreaded lest the first impressions upon these youths, who were peculiarly sensitive to every feeling of the kind, should operate to alarm or discourage them from the pursuit which constituted the vital part of the desired innovation. It was moreover necessary to conduct the dissections with due regard to secrecy, as the students were naturally enough exceedingly averse to being exposed to the gaze of intruders, particularly as such exposure might entail the penalty of excommunication to themselves and their families, and prove most disastrous to the welfare of the cause in which they had embarked. A rigid observance of these precautions, however, was all that was necessary to ensure success, for I had previously received unquestionable proofs of their intention to use the dissecting knife whenever called on to do so, and I have the gratification to say that on the 28th October, all doubt was removed. On that day, which may be regarded as an eventful era in the annals of the Medical College, four of the most intelligent and respectable pupils, at their own solicitation undertook the dissection of the human subject, and in the presence of all the Professors of the College and of fourteen of their brother pupils, demonstrated with accuracy and nicety, several of the most interesting parts of the body; and thus was accomplished, through the admirable example of these four native youths, the greatest step in the progress towards true civilization which education has yet effected. At this first attempt, all their companions present assisted, and it was delightful to witness the emulation amongst them, in displaying their willingness to recognize the importance of, and adopt a mode of study hitherto contemplated with such horror by their fellow-countrymen; since this time dissections have been regularly practised by all the senior class with one solitary exception; and in point of knowledge derivable from this source, the majority of the students may be considered on a par with the pupils of the English schools of medicine, possessing the same, if not more abundant, opportunities for its acquisition, equal intelligence, zeal, and industry.

It would appear but a just reward for the industry, and moral courage of the students who have thus more especially distinguished themselves, were their names brought to the notice of Government in the present report; but the same reason which induces them to conceal their anatomical labours, and the probable publicity of this document, forbids my making the disclosure.

This course of Lectures is still in progress of delivery, and will not terminate till the 1st of April 1837. A public examination will then be held, when the munificent prizes given by Baboo Dwarkanath Tagore, and the gold and the silver medals given by Government will be contested for: I look forward with confident expectation that the results of these will prove alike creditable to the students, and to the Institution.

#### THEORY AND PRACTICE OF PHYSIC.

These lectures were delivered by Professor Goodeve and occupied from May to September, 1836.

The object of the professor in this course was to instil into the minds of the students the groundwork of the science, and prepare them for the reception of practical information which they were hereafter to receive when the hospitals should be thrown open to their observation, and when clinical instruction (which it was then too early to commence) should become available. The subject therefore was treated in a purely elementary

manner, and directed to the theory and principles, rather than the practice of physic. These lectures, however afforded the pupils an insight into pathology, explained to them the nature and cause of disease in general, laid down the objects to be pursued in removing it, or palliating it, without however, entering at length into the details of therapeutics. At the same time the instruction thus given, served to disabuse them of many prejudices and foolish ideas which they had gathered from the deplorable ignorance of their countrymen upon all medical questions.

#### HOSPITAL ATTENDANCE.

The summer session of 1836 being now closed, and the pupils having acquired a considerable degree of proficiency in Anatomy and the broad principles of medical and surgical science, I thought that the most fitting season had arrived to introduce them to studies of a purely practical nature, and accordingly arrangements were made for their attendance at the Native Hospital, the General Hospital, the Eye Infirmary, and the Kolvingah Dispensary; the first of these from its convenient distance from the College became the favorite place of resort, and I am happy to say that they availed themselves fully of the benefits which that excellent Institution affords. The greater part of the class were exceedingly regular in their attendance, observing closely the cases, noting carefully their symptoms and treatment, and receiving with great attention the remarks made to them upon the diseases they witnessed. Most of them were anxious and ready to assist in the various minor operations, and some of them performed them with confidence and dexterity. In this manner they gradually possessed themselves of a mass of very important information, and at the same time they accustomed themselves to the disagreeable sights and impressions to be met with amongst the sick in hospital - sights which even to an experienced practitioner are frequently painful in the extreme, and to the young student sometimes the source of unconquerable repugnance. Their attendance at the Eye Infirmary, the General Hospital, and the Kolvingah Dispensary, was less regular than at the Native Hospital owing to these institutions being situated at a much greater distance from the College than this. I must not, however, omit to mention that not only were these valuable sources of practical information open to the pupils, but that whenever they did avail themselves of them, their opportunities for enlarging their knowledge were greatly enhanced by the kind attention and encouragement they invariably received from the medical gentlemen in charge of the patients. I am under deep obligations on this head; to Drs. Nicolson, J. R. Martin, E. C. Egerton, E. W. W. Raleigh, P. Stewart, and R. H. Bain, not merely for the kindness here alluded to, but for their willingness to bestow it, my colleagues and myself trace their recognition of the usefulness of the cause to which we are engaged.

#### PRACTICAL PHARMACY.

Since the opening of the present Session a class of sixteen students has been held three times a week for instruction in the above department, in connection with the treatment of disease. This class has been formed to suit the peculiar circumstances of the native students, who are studying in a foreign language, and who have no means of acquiring a knowledge of practical Pharmacy unless by resorting to the General Hospital of the Government Dispensary, an arrangement which would incur the loss of much valuable time and be insufficient for the wants of the whole of the students.

The instruction in this branch is conveyed in the following manner. The class is made to stand before the Professor, and each student in his

turn is called upon to read aloud on the subject selected for the day's discourse. As he proceeds defects of pronunciation are corrected, he is required to explain any technical phraseology which may occur in the passages he reads, and he is closely questioned on the general meaning of the whole; observations are introduced by the instructor, as occasion offers, and the opinions of the Pundit and Native teacher (both of whom are practitioners in high repute amongst their countrymen) are canvassed as to the prevalence, the nature, the cause, and the treatment of the disease under discussion. This is followed by comments on what has been read, with remarks on general and special treatment as applicable to Native and European practice, the students taking notes as these are delivered. The lecture then concludes by supposing a case, for which the pupils have to prescribe in the language and signs of the British Pharmacopæia. These prescriptions are examined, those which are deemed most applicable to the symptoms detailed are made up by the pupils, before they are dismissed. The class, which is under my own superintendence, has been of sensible benefit to the students as well as useful to myself. The subjects discussed comprehend the whole range of Therapeutics, hence opportunities are constantly afforded for enlarging the student's knowledge on matters of the highest importance, such as those which bear reference to the moral as well as medical treatment of disease, and the general laws of Hygiene. These could not be so advantageously, or so familiarly treated of, in stated public lectures. The class, too, from being limited as to numbers ensures equal instruction to the whole, at the same time the plan of combining private with public instruction enables me to form a correct judgment of the capacity and progress of each individual. These discourses will be continued throughout the year, and as the pupils become qualified, they will be deputed to treat the diseases of casual applicants, and appointed to take charge of patients in the clinical ward, which I hope to see attached to the institution.

To complete the course of instruction, the lectures on Surgery still remain. My original intention was to have delivered these during the present Session, but owing to the pupil's time being so fully occupied in the study of Practical Anatomy, *Materia Medica*, *Medicine* and *Pharmacy*, I have, at the suggestion of my Colleagues, postponed the course till the summer session.

#### CHEMISTRY AND MATERIA MEDICA.

The course of instruction in Chemistry was commenced in this institution in January 1836, as Dr. O'Shaughnessy was anxious if possible to test the aptitude and inclination of the pupils for a science of the nature of which they had no previous idea. A series of introductory lectures was accordingly given in which several popular topics, such as the composition of air and water, the safety lamp, &c., were discussed, and at the same time several difficult and abstractedly scientific subjects, such as the history of chlorine, iodine and its compounds, the chemical changes which occur in the respiration of plants and animals, &c.

Strict examination of the pupils was held at the close of these tentative lectures, and the result shewed, that while the popular department of chemistry was followed with delight, the more elaborate details were minutely studied, and thoroughly and readily understood; several of the young men moreover evinced a strong desire to become experimentalists themselves, and were known to purchase at (to them) enormous expence, various tests and articles of apparatus with which they repeated at their homes the experiments they witnessed in the lecture room; guided by these data Doctor O'Shaughnessy with my full concurrence decided on a plan of instruction calculated to enable the students to acquire the most

minute information on every department in chemistry, practically valuable in medicine or in the useful arts. For details as to the subjects treated of in the second course of chemistry I may refer the Committee to the preface to the printed report on the examinations in general chemistry, at the conclusion of the course, and to that report I may further with confidence turn in proof of the minute and practical knowledge, the pupils have acquired on every subject discussed in the Professor's course. But as well as the lectures in question another source of information was afforded to the pupils in compliance with the suggestions of Dr. O'Shaughnessy. I allude to the practical class in which twenty of the most distinguished pupils were instructed in the actual manipulation of apparatus, preparation of reagents, &c. being the repetition of the experiments performed in the Professor's Lectures. The selection of pupils for this class was made at a concourse, at which, I may observe, two members of the Committee, Sir E. Ryan and Mr. Cameron, were present. At the termination of the practical lessons in June the class was thoroughly conversant with the mode of taking specific gravities, the manufacture of gases, estimation of the strength of acids and alkalies, the analyses of saltpetre, alum, &c., and with the mode of preparation of many of the most useful mineral remedies.

It is worthy of remark too that no servants were allowed to the class, the practical pupils themselves making the fires, cleaning the vessels employed, applying clay lutes, &c.

The advantages of this practical class are so peculiarly important in this country that I fully concur with Dr. O'Shaughnessy in the anxious desire to extend its opportunities to all the pupils. But with the very scanty supply of apparatus at our disposal, it is scarcely possible even to continue the class to its present extent. The actual pecuniary outlay which the supply of apparatus would demand need not limit our efforts here. This supply we are prepared to shew may be obtained for a very trivial expenditure by an importation of the articles from Europe, nor do I mean to deny that numerous and useful articles may be made at a cheap rate by the native glass-blowers. But the chief obstacle consists in this, that the native workmen competent to make even the simplest apparatus are so few in number that the education of the present class will be completed before a sufficient stock of the most essential articles could be supplied by the native artisans.

Not only in the practical class, but in the illustration of the Lectures, is this evil severely felt; no complete apparatus having been provided for the establishment, the Professor is himself compelled to devote a considerable portion of time to the actual manual labour of glass-blowing, &c. which he could otherwise employ in the instruction of the pupils. The illustrations of each lecture necessitate the taking to pieces and re-adjustment of the apparatus used the preceding day, thereby adding greatly to the labours of the teacher, and subtracting from the benefit he could otherwise confer on his class. Dr. O'Shaughnessy is prepared to furnish an estimate and plan for the supply of all essential apparatus in the general as well as practical department. The expense will be found so small, especially when contrasted with the benefits to be derived from the supply, that I earnestly solicit the sanction of the Committee to the proposed expenditure. With respect to the course of instruction on *materia medica*, also conducted by Dr. O'Shaughnessy, it has not as yet proceeded to a sufficient length to call for any detailed notice. Dr. O'Shaughnessy introduced his course by twelve Lectures on the elements of botany, in which the structure and physiology of vegetables were generally discussed and the Linnæan natural systems of Botany explained. This study seems replete with charms to the native students; Dr. O'Shaughnessy makes occasional demonstrative excursions with a portion of the class to the Botanical Gar-

den, and Dr. Wallich, I am happy to say, has in the most friendly and liberal spirit volunteered his invaluable services in the assistance of our Institution, and promised to commence a series of Medico-Botanical demonstrations at the College in February next which will doubtless prove of the utmost value to the students. The admirable effects of the system of *concourse* in all the medical institutions of France, and where it has been adopted in England, the satisfactory results that have been produced by it, have induced me throughout to adopt it as one of the leading principles of the College, no promotion or reward can be obtained but by a fairly contested examination, where all have an equal chance of succeeding, and wherein the most industrious and deserving are certain of success. Besides the advantages of strict impartiality which this proceeding ensures, the strong excitements to exertion which it produces amongst the students, and the conviction that they will undoubtedly reap the rewards of their industry, tends materially to encourage them to labour with ardor and perseverance. Upon this principle, during the last course of chemical lectures, the formation of the practical manipulation class was effected through the medium of an examination at which the most efficient pupils were chosen from amongst the rest, and no cause for dissatisfaction remained to the less worthy. At this examination each pupil was questioned separately, and the value of his answer written down in numerals of 1, 2, 3, &c. so that at the termination those whose sum total was highest were selected.

The most interesting proceeding of this nature however, was the examination in chemistry held in September last, for the purpose of awarding the prizes so munificently given by Dwarkanath Tagore, a detailed account of which will be found in the report of that examination in the Appendix. Nothing could be more impartial than the mode in which these contests were conducted; it was impossible to have chosen a more complete test of the pupil's knowledge upon the subject, while the result, so interesting to all, displayed the complete success which had attended Dr. O'Shaughnessy's labours. I have no hesitation in saying that no chemical class in the world could have surpassed, and few would have equalled the brilliant replies of these youths upon this occasion, but I allow the report to speak for itself. During the continuance of each course of lectures it has been customary to examine the pupils every Saturday upon the subjects treated of during the week, and this plan has been found extremely beneficial, as well to ascertain the progress made by the students as to recall to their memories the objects of their previous studies. Besides these weekly examinations, a series of examinations was held at the termination of the first course of anatomical lectures, in which each student was separately questioned, and the value of their answers recorded for future reference in a book kept for the purpose. These examinations have been attended at various times by a large number of European and Native gentlemen, and amongst many distinguished individuals, by the Right Honorable the Governor General, Sir Ed. Ryan, and the Bishop of Calcutta: all who have been present have expressed their warm approbation of the pupil's conduct.

#### STUDENTS.

I proceed in the next place to detail briefly the mode in which the original class was elected, adding a few remarks on the general attainments and present condition of the students. In pursuance of the Regulations of the College, as defined in the Government Order of January 28, 1835, a preliminary examination was held on the 1st May, at the residence of J. C. C. Sutherland, Esq. Secretary to the Committee of Public Instruction, for the purpose of selecting the students on the foundation.

On this occasion about a hundred candidates presented themselves; the majority being Hindu youths of various denominations. The greater part of these lads had received their education at Mr. Hare's school, the Hindu

College, and the Scotch Assembly School ; the remainder had been instructed at the minor academical Institutions in the city.

The examination was conducted chiefly by Mr. Sutherland, and the acquirements of the candidates were severally tested in the elementary branches of English knowledge, in Arithmetic, and in Bengalee.

Their qualifications, as might be expected, were found to be very unequal ; many were rejected as altogether out of the sphere of eligibility, either from age or incapacity, others who were not considered sufficiently advanced were promised a second trial on some future occasion, and twenty-five were selected as stipendiary students. It would be seen that the election on this examination was limited to a moiety of the authorized number, an arrangement it was deemed advisable to make, in order to fix the qualifying standard as high as possible, and as there was yet a full month before the college instruction would commence, it was thought that other candidates of more advanced attainments might present themselves.

It is sufficient to state that this expectation was realized, and that shortly after the opening of the college on the 1st of June, forty-nine stipendiary students, had been enlisted. An account of the age, caste and education of these may be seen on referring to the paper No. 2, in the Appendix. The acquirements of the selected youths were exceedingly respectable. They could all speak and read English with ease and fluency, and could write from dictation with tolerable rapidity and correctness. Their knowledge of grammar was conspicuous as was evinced by their readiness in parsing sentences placed before them. In arithmetic they were less equal. Those who had been educated at the Hindu College, from the superior advantages afforded by that institution, had attained a higher degree of proficiency than the rest. But all of them had passed through and understood the Arithmetical gradations as far as fractions and decimals. In Bengalee their acquirements (as remarked by Mr. Sutherland and the pundit Moodusoodan) were, with two or three exceptions, slender. They could read and translate, but to do either seemed rather a business of labour than ease. On the whole, however their knowledge of Bengalee was not considered to be below the standard usually attained by native youths, studying in the English language.

From the above remarks it will be observed that these young men, though tolerably far advanced had not reached the maximum of knowledge which their school education was capable of imparting. In order therefore, that they might still continue, to a certain extent, their general studies, an arrangement was entered into between Mr. Hare and myself, by which the pupils were enabled for a few months longer to continue their attendance at their school classes without interfering with their medical studies. This combination of general with special instruction had its advantages. It not only increased their positive knowledge, but it enabled me to ascertain whether their having embraced the study of medicine, was likely to produce any unfavorable impression on the minds of their former school-mates. The greater portion of the students entered the college with the free consent of their parents and guardians, without, however, any express condition being given or required for their continuance at the institution for a specified period. The students, with the exception of one Christian, were all of the Hindu persuasion and of various castes, as may be seen in the Appendix No. 2, belonging chiefly to the middle classes of native Society, though the parents of some few, as I have since ascertained, were bordering on poverty. Mahomedan youths have at various times applied for admission, but I regret to say, their meagre elementary acquirements have constrained me to reject them. There are however several who are now studying for the purpose of gaining admission, and in course of a few months may be expected to be qualified. It is worthy of mention that amongst these is a Delhi lad who has been.—*Rep. Com. P. I. 1836.*

DR. GRANT'S ADMONITION TO THE FIRST STUDENTS OF THE  
MEDICAL COLLEGE, WHO OBTAINED CERTIFICATES  
OF QUALIFICATION.

OMACHURN DAY, DWARKANATH GOOPTA, RAJKISTO DAY, AND  
NOBINCHUNDER MITTER—

In my father-land, it is usual, on granting Academic Testimonials to those Students who pass in their College Examinations ; to address a few words of Admonition to the Professional Aspirants. In accordance with this good old rule, I have been requested at a short notice, to give you an exhortation regarding the new duties, upon which you have been publicly declared, qualified to enter.

Allow me in the name of the College Council, and my Colleagues the Examiners, to congratulate you, as we do most cordially and sincerely, upon the successful termination of your College probation, which, I trust, is the auspicious harbinger of similar success in your professional career. From the Professors, we were glad to learn, that your conduct while in the institution was meritorious and steady ; and characterised by docility, zeal and assiduity. To these I would also beg briefly to add, our sense of the patience and perseverance with which you have effected a triumph over circumstances of formidable difficulty and complexity ; considering the social and religious prejudices by which you were circumvented. The fruits of these you now, to a certain extent, enjoy, in what ought ever to be most precious to generous minds,—academic distinction and the recorded approbation of your superiors. I mention this not to minister in the slightest degree to your personal vanity—but as a matter of justice to yourselves, and of encouragement to your fellow students, who have not yet passed through their academic trials ; but who, I hope, will soon be found successfully following your landable example. You leave this institution with a character that renders it very necessary for you to be most circumspect, lest you should be so unfortunate, as, at any time hereafter, to fall short of the promise it now holds out. So far as you have gone, you have done well—very well. In welcoming you, however, my brethren,—as the first four Hindoos who have received such a distinction and one which you ought highly to value, as I doubt not you do : In welcoming you, I say, into the ranks of a liberal and honorable profession : let me impress upon you, that although preceptorial instruction be concluded, you are only entering upon that system of self-education, which the medical practitioner must follow in the trying school of experience. The medical man while he lives must be a student, for were you to live to the utmost limits of mortality, Nature would still have something new to unfold to you ; something that it would be not merely graceful for you to know, but absolutely necessary to understand. Taught in a foreign language, and after foreign models, no less than by foreign teachers—it will require great vigilance of revision, and reference on your part, to retain profitably in your mind the knowledge which you *have* acquired ; no less than to make it the stratum upon which to found further knowledge. I beseech of you, therefore, to keep fresh, and in active operation, your English acquirements, by frequent, and steadily continued, or habitual reference to books ; and also by conversation with Europeans, more especially, the members of our own profession. If you do not very especially attend to this— you will not only retrograde yourselves, but you will prejudice the cause of native scientific education. Cherish habits of observation—Consider what is the chief merit of the great Hippocrates, in our eyes. It consisted in his patient industry in watching all morbid signs and changes—and his accuracy in



recording the minutest circumstances of disease. Nothing escaped him ; his judgment which was deemed marvellously unerring, was formed upon a comparison of several things ; he did not judge from a single circumstance ; he compared and weighed several, as posture—pulse—mode of speech, and so forth. You have not merely to watch the phenomena of *known* diseases and to combat them by known means—but you must be on the watch for new diseases—or striking modifications of some well known disease ; and for new remedies and modifications of old ones, to meet the contingencies of shifting conditions—for there cannot be a doubt that varying civilization affects varying the phenomena of disease and treatment.

Your duties are fourfold ; they concern the sick, the profession to which you belong, society at large, and the Government we all have the honor to serve. Of your duties to yourselves, I say nothing, deeming that they are self evident to you. All these duties are based upon a very simple golden rule, to do to others as we would be done by. An inhuman, a dishonest, a licentious medical practitioner ; is there not in the very expression something that jars upon the moral sense ? If a physician be wanting in honor, in humanity, and in rectitude of conduct ; what possible security have society for the confidence reposed in him ? None ! and where are those on the face of the earth, men in whose discretion, honor and goodness, such a large measure of confidence is placed as in medical men ? If they want those qualities, then, I emphatically say they want *all* ; for the other qualities are naught without the moral ones. Scientific skill and experience are like the sword of the brave and the loyal--of use only when in the hands of the honest and true. Personal honour, must be the loadstar of your conduct : without that, you will only be bringing a reproach upon the fair fame of our profession. Out of this sentiment springs the capacity to keep a secret. You are yourselves well able to judge, how far you are likely to be confided in by the heads of families : However this may prove, with you ; yet, addressing you with European experience, blended also with personal opportunities of being consulted professionally by your countrymen, (some of them men with families)—let me remind you that to a physician much is entrusted : He is the depository of many delicate secrets (for the constitution of our nature, or conventional habits, is such, that there are even maladies, we would rather it were not known we laboured under.) The physician may sometimes be the depository, not merely of the maladies and weaknesses, but to a certain extent of the honour of individuals, and families. What an important ! what a gravely responsible trust ! and to what a depth of baseness must that professional man fall, who should betray such a sacred trust ! Remember, then, that you are not to gossip respecting the ailments of your patients, or to blab the confidential revelations, made to *your* ear alone. This condition is in no way inconsistent with your giving the benefit of the fruits of your experience, or of pathological facts, to the profession. Be not offended, if I remind you, of the vital necessity of rigidly adhering to the truth. I am not here to flatter you and your countrymen, and I must declare, as I am bound to do, that the greatest fault I have experienced in my sojourn among them, is a laxity in regard to truth. Truth and honour, in fact, are synonymous terms. Even in trifles be accurate, for if you are found to be inaccurate in small matters, people will naturally doubt your word, in questions of weight ; and the fruits of your observation, nay, even your very discoveries, might thus prove of little or no value. To be accurate in observation and the registry of facts, however, it is necessary that the language in which you record facts or theories should be accurate. You have still much to learn on this very head ; and I beg of you not to forget my words. Avoid jumping to conclusions ; that is to say, do not allow any

bent towards a preconceived hypothesis to give you one-sided and unphilosophical, that is to say, hastily formed, and unwise views.

Your duty to the sick requires—in the first place humanity—in the second place humanity—and I say again, humanity! You must obtain the sick man's confidence. To do so, you must at least evince that you do not want sympathy with his condition. You must be patient with the sick—for remember that they are suffering from disease—while you are listening, in health. Therefore, you will not care for peevish, and hasty expressions wrung (perhaps from a naturally placid person) by pain and anguish. You must bear and forbear; you must even affect not to hear the petulance of the sufferer. A sick man does not like to be much questioned. It will save him annoyance if you put previous questions to friends or attendants. Do not, however, implicitly trust to such. Never take reports of others on the subject of *some* phenomena, as discharges, &c. Here you *must* judge for yourselves or you are unfit for your profession. *Certify* yourselves as to the seat of disease; and its nature, whether local, or general; organic or functional. Never prescribe till you answer the question to your own mind, as if it were put to you by another, *why*, and for what, you are prescribing. Do not prescribe merely to appear to be doing something, and should you find that your first view was a mistaken one, do not hesitate to correct it at once, and to alter your treatment, no matter how inconsistent it may appear, provided you are satisfied, in your own mind, that you are right. To humanity you must add firmness. You may humour your patient when the contrary would irritate him, and perhaps mischievously accelerate vascular action; but you must not compromise yourself by doing so too much, for there are limits that common sense will shew you, no medical man can tolerate to pass. You must be absolute in the sick chamber, or be nothing. Do not shift with the opinion of friends of the sick, or unprofessional men: who ask if this would not be good and that would not be good. You should cut such gratuitous interference short. Give your directions clearly, and explicitly, not merely as to medicines, and their administration and vehicles; but as to regimen, and then such suggestions as I allude to will be anticipated. Nevertheless, a person of sense, not of the profession, may sometimes make a very proper suggestion which you perhaps have overlooked. Receive such thankfully. Friends too may sometimes warn you that certain medicines, however they may affect others, produce some peculiarly alarming effects upon the individual you are called to prescribe for. Always respect such cautions and be guided by them, for they are the result of experience which, as respects the party, *you* have yet to acquire. Need I remind you of the absolute necessity of moral courage to the medical man? Let him lose his presence of mind, and he commits himself irretrievably. Of this there are lamentable instances in the records of our profession, but this is not the place to dilate upon them. There are various points, regarding which your intimacy with the manners and prejudices of your countrymen, will suggest to you the most expedient and proper course to pursue. Should a patient be told of his danger? Much must depend upon the particular circumstances of each case. I should certainly say, if requisite, 'I consider you seriously ill, and if you will not rigidly adhere to my rules, I cannot be answerable for the consequences.' Your plain duty is to cure the patient if you can and prolong his life. It is not your business to volunteer a fatal prognosis to the patient. The friends, however, have a right to know your impressions on this head. The patient will sometimes appeal earnestly and solemnly, to know if he is in danger and drawing near his end: Whenever I have been so appealed to myself I have always (however reluctantly) candidly admitted that I thought so. Much may depend upon this as respects the disposal of property, and other considerations.

Your duty towards your professional brethren, ~~that~~ is to say, to each other, is very simple ; cherish a certain brotherly and generous feeling. Avoid as you would a deadly snake jealousy and detraction. Get jealous of your professional brother's success, and you are almost sure to detract from his fair merits, and so injure him. This is a pitiable feeling and society will immediately perceive it. Never disparage your professional brother. You may differ, *must* sometimes explicitly declare (perhaps publicly declare) that difference, because your character may be involved ; but that is a very different thing from voluntary detraction. It ill becomes you to expose, or to glory in a professional brother's mistakes or errors. These, heaven knows, are bitter enough without such addition on your part. Let him that stands take heed lest he fall—and when he recklessly asperses his professional brother's character or uncharitably blazons his mistakes ; remember that *he* too has a character to lose. The medical man's professional reputation is his life of life. In this respect it approaches to the delicacy of female reputation. Blow upon either, and you do an irreparable injury. But let this injury come from a brother of the profession, and it is not merely a wound—but a *poisoned* wound. In these remarks I address myself not only to you, my friends, but to *all* the students in the College.

The duty which you owe to Society may be briefly summed up under the heads of fitness of your undertakings—modesty of demeanour in all situations—self-control—great discretion and genuine disinterestedness. On your fitness for your duties, we have already pronounced. I pray you so to demean yourselves that this our honest opinion, may be ratified by the voice of the people among whom you are to go—to practise your profession. To the knowledge you now possess or hereafter may add to, conjoin a becoming diffidence of yourselves. Do not be forward to express opinions even in your own profession save on proper and professional occasions. Be extremely cautious in pronouncing on the practice of others. Do so only in professional consultation, or in such circumstances that you may feel bound to state the truth without fear, favour or affection. Do not look upon your profession merely in the light of a trade, to make money by. It is sometimes very easy to make money by our profession, provided a man could gulp the degradation of enriching himself unworthily. I say it advisedly that the great secret of the poverty of many European medical men in India, is simply, that they cannot afford to lose their own self-esteem. I am not called upon to illustrate this point at present. It is sufficient that I make the allusion, and express a strong hope that you, our Hindoo brethren, will be found not a jot less inert to the sinister influence of what is by your countrymen supposed to be irresistible ! Instead of a trade, consider your profession, rather as a privilege, which permits you, in the scheme of Providence, to become its instruments, in the relief of suffering and the alleviation of misery. Let no sordid views guide you. You have a right to expect proper and liberal remuneration from the obviously competent and wealthy ; but let the poor and distressed man ever find in you a ready, humane, and patient listeners and counsellors. You may have it in your power to do the public service by exposing the system of gross and general quackery which is productive of so much mischief among the people of this country. You can have no difficulty in making observations on this matter, and of communicating the result to the profession. You might also, in a temperate and becoming style, examine the claims of the *Susruta*, or Medical Shaster, to be considered as a proper, or even safe medical vade-mecum. You may have it in your power also to add to the general stock of knowledge in collateral branches of scientific observation. In this way I hope you will particularly bring your attainments in chemical analysis to good account, and that you will not be

indifferent to the meteorology, and agriculture, and in a word, the general statistics of such places as you may be stationed at.

In regard to the Government which we have the honor to serve, you will be careful to acquit yourselves faithfully, honestly, and zealously of the duties it may claim from you. Remember that there is not a grain of medicine dispensed to the sick, that does not put the Government to expense. You will therefore be conscientiously scrupulous about every thing coming under the head of medical expenditure and comfort committed to your charge; and, recollect, that dishonesty consists as much in carelessness concerning property of any kind, confided to a man's keeping, as the application of it to other purpose than those for which it was so entrusted to him. You owe the Government a large debt of gratitude for the precious advantages of a liberal and scientific education which, in the exercise of a truly enlightened policy, it has conferred upon you, and you will therefore, I doubt not, be ready cheerfully to conform yourselves to all its behests, in regard to your future employment. I beg particularly, that you would not give in to a weakness, too common to Bengalees; that of an unwillingness to quit Bengal itself, or even Calcutta. This is a most contemptible feeling, and of itself indicative of a lower tone of civilization, than those who yield to such an unmanly prejudice, are aware of. Be not over-solicitous about rank and pay. Rest assured that your class have influential friends who will not overlook whatever relates to your promotion and your welfare, and when I consider what the nobleman now at the head of the administration in India, has done for the institution, of which you are members and the first fruits; I hope I am not presuming too much, in saying that in the Governor General himself you and your class have a fast friend. In regard to rank, recollect that there are two kinds, factitious or mechanical rank, and that which can only be conferred on man by the Almighty, and the use he makes of his own talents. Be more solicitous about the latter than the former. I knew a man once who was a Surgeon on the Bengal Establishment; the only factitious rank, after 32 years' service in India, which he ever obtained, was that of a Captain in the Army. He was a person of most distinguished ability in his profession, of rare sagacity and admirable skill as surgeon and physician. His general acquirements were on a par with his professional endowments, but what was a fine feature in his character was his straightforward candour and his utter disdain of any thing that would come under the head of unprofessional conduct. Add to this, that he was a man of large benevolence and a munificent friend to the poor and distressed, and lived respected and beloved, not merely by the members of his own profession, but by society at large. Aye—and his name is to this hour as gratefully familiar in India as household words, and this I tell you is a man of the very highest rank as a member of our profession and of society. Make such a man your model of conduct, for I am glad to say that he still lives among us, and his name is SIMON NICOLSON.

My young friends, I now bid you farewell—Go forth in the strength of a good cause and earn for yourselves an honorable name in an (to you) untried path. As I have said, you are the first fruits of a great experiment that of enfranchising the native mind from ignorance and dark prejudices. Recollect that the success to a certain extent of this most interesting experiment depends upon *your* future career. A false step on *your* part might be productive of disastrous consequences to the great cause of native education, to say nothing of the mortification which any misconduct, or failure of yours, would inflict upon your teachers, and upon *us*, your god-fathers, as I may say in the profession. Farewell and may prosperity and happiness crown your honest endeavours.

## REPORT OF THE COMMITTEE, APPOINTED BY THE GOVERNOR GENERAL IN COUNCIL, ON NATIVE MEDICAL EDUCATION.

To the Right Hon'ble Lord W. C. Bentinck, G. G. B. &c. &c. Governor  
General in Council.

My Lord,—We do ourselves the honor to wait upon your Lordship, with our report of the investigation committed to us, in Colonel Casement's official communication of the 3d October last ; on the subject of improving the constitution, and extending the benefits of the Native Medical Institution.

II. Having carefully perused the voluminous documents forwarded by Colonel Casement, including your Lordship's minute on Native Medical Education, it became incumbent upon us, in the next place, to make ourselves conversant with the system of education pursued at the Institution and also at the Medical class of the Sanscrit College, with reference to a doubt expressed in your Lordship's minute respecting the expediency of maintaining the Lectureship at the latter. We accordingly visited these seminaries and carefully examined the pupils. The result with some of the pupils, all circumstances considered, was generally speaking creditable to themselves and their teachers ; but the prominent defect in the system of instruction at both, is, the comparatively little proportion that the practical part of medical education bears to the theoretical. This we are convinced must continue to be the case, until a different system be founded upon a basis of human dissection, and a knowledge of the English language.

III. In reference to the ends of the Institution and its actual state, we also held interviews with the Superintendent and the Secretary to the Medical Board. From these gentlemen we derived a large body of information which your Lordship will find duly filed among the papers we have the honor to forward. We now proceed to consider the state of the Institution generally ; its defects ; and the nature and extent of the measure of reform that suggests itself.

IV. Although it is not within our province to discuss the question of the difference of opinion on several points noticed in your Lordship's minute, as having arisen between the Medical Board and the Superintendent ; yet, is it so blended with the general interests of the Institution, that we cannot with justice to them, wholly avoid referring in some degree to it. It scarcely admits of doubt that once in consequence of a want of union in the views of the Medical Board and the Superintendent, has been a clogging of the machinery of the Institution ; since the latter, it may be naturally presumed, would scarcely be disposed to give very cordial effect to measures, on the expediency of which he was a declared dissenter.

V. According to the testimony of the Secretary to the Medical Board, the pupils are generally selected from a large number, and judged of, by the extent of their elementary knowledge ; leaving to Mr. Tytler, the privilege of recommending the rejection of any whom he may deem to be incompetent. Mr Tytler, on the other hand states (*see his letter of 23d. March 1833. forwarding Report of the N. M. I. for 1832 par : 4th*) that to object to a candidate actually appointed in positive terms by the Medical Board, must always be unpleasant, and that he forbore doing so, with respect to many whose qualifications were very low. To this we think the answer is sufficiently simple. Mr. Tytler in cases where he might observe great deficiency, was expected to interfere ; and that he did recommend the rejection of several candidates deficient in qualifications, we shall see presently.

VI. The Superintendent has throughout, evinced an earnest desire, that a preliminary examination of a searching kind, should be insisted upon in the admission of candidates. Hitherto, to be able to read and write\* with tolerable fluency, is all the literary qualification required (*see Mr. T's report for 1830.*) We find him in his Report of the Institution for 1831—par. 29—urging the necessity of more attention being paid to the previous habits and education of the pupils, than could be done, when the Institution was first formed, and when it was an object to allure any candidates that might offer themselves, however low

\* I. e. Hindoostanee.

in qualification. In many instances the pupils on entering the school were unable to read except with much difficulty and blundering; incapable of making memoranda by writing, and so destitute of arithmetic as some times to be unable to count to a hundred. Surely candidates like those described ought never to have been admitted at all.

VII. The controul exerted by the Medical Board over the Institution is essentially absolute, and has always been so considered by the Superintendent. Two instances will suffice to place this circumstance in a clear point of view before your Lordship. On one occasion (*see No. 12 of Mr. Tytler's appendix*) Mr. Tytler recommended to the Board the rejection of fourteen candidates as quite unqualified. The Board however cancelled the appointment of one only, and confirmed that of the rest, stating that there were no other candidates better qualified. In such a case why not wait until properly qualified candidates came forward, instead of appointing persons declared totally unfit, by the Superintendent; who had the best opportunities of judging, and could have no other motive for recommending their discharge than the good of the service? The other instance is consistent with our own experience. In reference to a suggestion in your Lordship's minute; after careful examination of the parties and with the entire concurrence of Mr. Tytler, we recommended the immediate discharge of fifteen of the pupils noted for idleness, ignorance and incapacity. Most of these had been in the Institution upwards of two years and were unable to answer the most simple questions in rudimentary anatomy; and their elementary acquirements, even though they had been under instruction for the above-mentioned period, were far below what we should deem a qualifying standard of admission into the Institution (*see Mr. Hutchinson's examination Question 25 and Baboon Rucconat San's Report.*) Government, we learn, referred the matter to the Medical Board, who notwithstanding the joint recommendation of the committee and the Superintendent, to the contrary, have decided that nine of them should be retained in the Institution.

VIII. We conclude that the chief end that Government had in view in founding the Native Medical Institution was to provide a constant and efficient supply of Native Doctors, to act under the immediate superintendence of European medical officers, for Regiments and civil stations, as they might be required. A want of system or rather the existence of a very defective one is a pervading feature of the institution. The general order of 21st June 1832 gives an outline of what was expected by Government in the way of instruction, but in too general a manner to be a precise guide for the Superintendent, who, perhaps, should have himself submitted a code of regulations for the approval of the Medical Board. Nothing more definite has been set down since, and Mr. Tytler states that to this day, it is quite undetermined what he is to teach, and what the students are to learn (*see par: 50 of Mr. T's letter of 23rd March, 1833.*) No positive rule as to the qualifications of candidates appears ever to have existed, and it is sufficiently evident that very illiterate persons have been admitted. The Medical Board in their selection of pupils, have been swayed a good deal by family claims, giving the preference apparently to the sons of Native officers and sepoys. As the institution, however, was not established to form a provision for any particular class, it were better not to recognise such a rule of selection, unless the qualifications of the candidates be of an order to give validity to such claims.

IX. As no translation existed at the commencement of the institution, on the different elementary subjects to be taught; it became necessary that as many manuals as could be compiled, should with as little delay as possible be struck off by some competent person. These which were of a very brief and simple character answered the somewhat desultory purpose of the juncture, but it is obvious that the student could only derive meagre snatches of medical knowledge from them. The labours of the late Mr. Breton, assiduous and laudable as they were, were still only those of an individual, who had, on the spur of the moment, to supply a daily increasing demand. They furnished a thin outline of science, but nothing more. Nevertheless the Native Doctors provided by the Institution, with such comparatively slender means, appear, as far as can be gathered from the Records before us, to have given satisfaction generally, as compared with the former Native Doctors. Mr. Tytler on this head states (*see Report of the N. M. I. for 1831*) that throughout all departments, civil and military, there seems to be

an increasing conviction of the superiority of the Native Doctors educated at the Institution, to the former race of those subordinate assistants; and that the demand for them of late has been so great, he fears whether his utmost exertions will be able to keep pace with it.

X. During Mr. Breton's time, there seems to have been less interference with the arrangements of the Superintendent, than since Mr. Tytler became connected with the institution. The final examinations of the pupils, it is (*see Mr. Tytler's report as above par : 43*) also alleged were not so minute formerly as they now are. No copy of any examination of pupils, during Mr. Breton's time, has been submitted to the committee to form a comparison by; Mr. Breton, it further appears, could at once order a tract to be printed, or a plate lithographed, without any previous reference to the Medical Board. Mr. Tytler does not enjoy the same privilege, and is moreover liable to have his translations modified, and criticised as the Board may deem fit.

XI. Among the objects to be taught at the Institution, Mr. Tytler justly considers Anatomy, as claiming the chief place. Taking the result of the pupils' examination, as a test of the course of instruction, it cannot but be deemed defective. The principal part of what the pupils know, has been derived from books or tracts, not from demonstration; as is evident by their mode of answering questions. Pupils who had been in the Institution upwards of two years had never been taught the names and situations of the muscles of the upper extremity. Mr. Tytler's plan of teaching may be generally stated thus. Elementary treatises on the different parts and organs of the human body, are put into the hands of the students, who hear daily lectures on the same. Each set of parts takes its turn in the course of instruction as the bones, the ligaments, the muscles, the blood-vessels, &c., before an attempt is made to shew their minute relation to each other (*see Mr. T's report for 1831, par : 12 see also his replies to questions 41—42—and 43*). We would express our dissent however, from Mr. Tytler, on the point, of his leaning so much as he seems to do (unless we misapprehend him) to the conclusion, that it is possible to communicate sufficiently correct Anatomical and Surgical notions, to the students, to enable them sufficiently to fulfil their duties, from dissecting inferior animals, aided by an occasional glance at a dead body in the general Hospital.

XII. Respecting translations; on the Superintendent's forwarding one into Hindoostanee of a small tract on gun-shot wounds, to the board, for approval, (*Mr. Tytler's letter of 7th April, 1831.*) That body, by their Secretary, declared their opinion (*see Mr. Hutchinson's letter of 13th May, 1831.*) that the tract in question was quite inadequate to the purpose contemplated, as no adequate idea of gun-shot wounds could possibly be conveyed within the contracted limits of four duodecimo pages: entering their protest at the same time against the accuracy of several of the doctrines laid down in that tract: and ending by suggesting the propriety of Mr. Tytler's making an abridged compilation from the works of Guthrie and Hennen, or even from the article on gun-shot wounds in the last edition of Cooper's Surgical Dictionary. Mr. Tytler replied, that in preparing the little tract in question, it was not his intention to present it as a complete treatise; all he proposed was to furnish a tract of suitable length for the pupils. The works of Guthrie and Hennen, he observed, comprise upwards of a thousand closely printed Octavo pages, to make an abridgement of which, would be an undertaking of much labour, and would interfere greatly with the preparation of others—independently of risk after all, that his compilation might prove unsatisfactory to the Board, and much time be thus lost. There certainly appears to be a good deal of reason in these remarks, and as respects the alleged inadequacy of the tract, to the purpose contemplated, it may be asked what that purpose was, and how it was inadequate to meet it? The end contemplated was to give the students a simple concise and general idea of gun-shot wounds. This the tract, which was rendered entire from Dr. Hooper's surgeon's Vade Mecum, did, in a succinct and sufficiently elementary manner. Its brevity then considering the object was in its favour. In regard to the doctrines of the tract protested against by the Board, as they did not specify them, we have nothing to remark.

XIII. With reference to a treatise on the blood-vessels and the absorbents, proposed to be printed, the Board approved an opinion, that the tract might be rendered much more complete and useful, were Mr. Tytler to intersperse it

with a few cursory practical remarks on the subject of the relative situation of the vessels of the thigh, arm, and neck; as connected with the operations of Aneurism of the vessels passing over the brim of the pelvis; and finally on the course of the Epigastric artery, so far as that is connected with the different operations of Hernia. Experienced as he is, in teaching Native youth, and from the nature of his pursuits, fully comprehending the obstacles that stood in his way; it is perhaps to be regretted that Mr. Tytler was not permitted to pursue the course he had traced out for himself. The tract on the blood-vessels was much required, as there was no other in the Institution on the subject. It was, besides, intended for the youngest class commencing anatomy, and to whom the nature of the operations respecting Hernia and Aneurism could not be rendered intelligible, at that early stage of their studies. Nay, it may be added, that these operations are utterly beyond the province of Native Doctors educated at the Institution under the present system; as it never could have been intended, that with their very defective opportunities and qualifications, they should undertake such nice and serious operations, requiring a most complete knowledge of human anatomy and the greatest surgical skill.

XIV. Generally speaking the final examination appears to be as well conducted as circumstances would admit, although the desirableness of its being of a more open character at once impressed itself upon us. Occasionally questions of a difficult, or of an entirely theoretical nature, are put, that even, when answered readily, can under present circumstances be no proper test of sound acquirements and practical ability. In illustration of this opinion reference may be made to a copy of the examination of Dursun Sing (*see Mr. Tytler's appendix No. 9 also see Do. Do. No 8.*) Out of 21 questions three only are of an useful and practical character, the rest have reference to the circulation of the blood in the adult and in the fœtus; a mere rote knowledge of which, on the part of students intended to fulfil duties of such subordinate kind, as those in which Native Doctors have hitherto been engaged, can be but of questionable value.

XV. The number of pupils at the Institution is sixty-seven (*see Mr. Tytler's appendix, No 2*); of these thirty-three are Hindoos; the rest Mahommedans. The birth place of the whole is in the upper provinces, with the exception of five from Chittagong and one from Moresheadabad. The rank and station in life of their fathers, is as following.

|                          |    |
|--------------------------|----|
| Sons of Subadars.....    | 5  |
| "    Jemadars, .....     | 16 |
| "    Havildars .....     | 15 |
| "    Naicks.....         | 3  |
| "    Sepoys.....         | 3  |
| "    Pundits.....        | 3  |
| "    Native Doctors..... | 6  |
| "    Hakeems.....        | 1  |
| "    Fifer.....          | 1  |
| "    Mootsoodee.....     | 1  |
| "    Thannadar.....      | 1  |
| "    Moonshee.....       | 1  |
| "    Unspecified.....    | 11 |

Total 67

of these, six or one eleventh of the whole only, are sons of Native Doctors, while forty-two are sons of non-commissioned Native officers, or sepoy. The paucity of the former would seem to indicate either that the Native Doctors do not possess the requisite interest to get their sons provided for in this way, or that they do not consider a Native Doctorship in the service an eligible provision for their sons. The conduct of only thirteen of the whole number is reported as good by the superintendent, that of thirty five is stated to be indifferent, and that of the remainder to be only tolerable or very indifferent. This of itself is proof sufficient, were there no other, that much greater stress ought to be laid upon the previous qualifications of the students, on their admission into the Institution, than has hitherto been done.



XVI. The pupils are taught by the Superintendent in person, aided by Native assistant teachers. The former are divided into four classes for Anatomy, Materia Medica, Practice of Physic, and Surgery. The Lecture days are Wednesday and Saturday from half past 10 o'clock A. M. to 4 P. M. The hours set apart for private study are all those on which the pupils are not engaged at the lectures, reading with the Assistant teachers, or at meals. The students all sleep in one large hall, where they also pursue their private studies. A muster roll is called twice a day once at 5 P. M. and again at gunfire in the evening, when the pupils have finished reading with the Assistant teachers.

The sources of practical improvement in their profession are the general Hospital, the Native hospital in Durrumtollah Street, the H. C. Dispensary, the Eye hospital, the Gurrenhattah dispensary, the Colingah dispensary, and the Vaccine establishment, where they attend at stated times in alternate parties. For the routine of study on days when there are no lectures, and for the economy of time in attending upon the several establishments mentioned above, we would respectfully refer your Lordship to Mr. Tytler's appendix Nos. 4 and 6. The Holidays are all Sundays throughout the year; the Mahomedans have nineteen or twenty holidays peculiar to themselves, exclusive of five Hindoo holidays (viz. Dewanube, Dushera, Hoolee, Bhundun, Chunick, 1 day each) in which they always like to join. The Hindoo Holidays are those set down in the Directory, 34 in number.

The Lectures are delivered in the Oordoo language, the anatomical names as also those of medicines &c. being in Latin and English, with Arabic adaptations. The pupils, on the days when there are no lectures, study the various tracts by the late Mr. Breton, and the present Superintendent.

The so-called rules of the Institution (*see Mr. Tytler's appendix, No. 7.*) are of a very general nature, having reference rather to the conduct of the students out of the Institution, than within its walls. They do not appear to be duly engrossed, or to have received the sanction of authority.

XVII. We find that the number of Native Doctors supplied to the State since the first establishment of the Institution, to the 1st January last, amounts to one hundred and twenty.

There can be no question, that the Institution itself, was an improvement upon a state of things, that left the supply of Native subordinate medical Assistants for the army and jail Hospitals, &c. entirely to chance. It is also not unlikely that it has, to an extent of course very limited, diffused some useful medical knowledge among the Natives. Neither can it be a question, that although it has supplied Native Doctors of higher qualifications than any that were procurable before since the breaking up of the general Hospital system throughout the country (*see Dr. Nicolson's replies to the finance committee's queries*), yet that the Native Medical Institution labors under several defects which time has clearly developed, and the fitness of things arising out of altered circumstances, and an improving concurrence of events; evince the necessity of reforming. The prominent defects of the Institution may be summed up under the heads of, 1. The absence of a proper qualifying standard of admission. 2. Scantiness of the means of tuition. 3. The entire omission of practical human anatomy in the course of Institution. 4. The want of regularity as to time in admitting students. 5. The want of due stimulus throughout. 6. The shortness of the period of study. 7. The want of means and appliances for the convenience of private study. 8. The desultory character of their attendance on the practical means of Institution. 9. The inconclusive nature of the powers and authority where-with the superintendent is vested. 10. The mode of conducting the final examination.

XVIII. In considering each of these defects separately, we beg, in the order just stated, first to submit to your Lordship that according to the mode of admission which now holds at the Institution, there is scarcely a shadow of qualifying standard either as to age, condition of body, conduct, abilities, or acquirements. In a subsequent place we shall endeavour, very respectfully, to demonstrate to your Lordship the necessity of paying greater attention to each of these.

(2.) The scantiness of the means of teaching includes the limitation to a single Professorship and the almost total want of mechanical material, and necessary text books. One professor, be his qualifications what they may, is

not competent, especially in a climate like this, or indeed in any country; either constitutionally, or intellectually, to teach a number of students Anatomy, Materia Medica, Surgery, and the practice of Physic: as these branches ought to be taught. The energies of the teacher, in spite of his utmost exertions, must almost unconsciously, become affected by a want of unity of system. There is therefore unavoidably an inconclusiveness in his labours, which would not be the case if he had only to teach one branch, and to concentrate all his powers upon it. Neither will the students listen with such fixed attention to one teacher as they will to several. There is a monotony and weariness apt to be produced in the learner, when he listens, day after day, to only one Lecturer. A change on the other hand proves refreshing to the master no less than to the pupils; add to which that the division of labour enables the former to recruit his powers and enrich his stores of information. But another and a cogent objection suggests itself and that is the extreme difficulty of supplying a vacancy in the superintendency, as at present constituted. Supposing that which is a moral impossibility, viz. that the present incumbent is fully qualified in every respect, to teach all the branches of medical science, as they ought to be taught—where, we would respectfully ask, could a successor be found in the event of a vacancy? That is to say, an European Gentleman of extensive oriental learning, combined with high professional attainments. Nay, if we may venture to express an opinion on that head, we would say that the abstruse study of languages, is of itself rather at variance with the habits and dispositions which are most favorable to the cultivation of anatomical science, and the laborious details of the dissecting room. Anatomy to be taught efficiently and well, requires in the Professor of it, a more than ordinary singleness of purpose, and share of physical and mental capacity, great energy, and a certain measure of enthusiasm for the pursuit itself. These remarks we need scarcely represent, have no individual reference whatever, but bear strictly upon the general question. Of text books, with the exception of certain tracts already alluded to, there are none. There is not even an entire skeleton, or a complete set of unarticulated bones in the Institution. There is also a woeful deficiency as respects casts, plates, and models; and it is not so much a matter of surprise that the students should not be more advanced in anatomy; as that they should know so much of it as they do, considering all the disadvantages in the way of their teacher.

(3.) The entire omission of practical human anatomy in the course of instruction, has been the result of necessity. At the time of founding the Institution, to attempt introducing this branch of science was out of the question. The juncture was not ripe for such an experiment. Times are, however, much changed and the difficulties that stood in the way appear no longer insurmountable. The omission of anatomy, were there no other defect in the establishment, would of itself be sufficient to show the urgent call for a reform in the system. To enlarge upon the point to your Lordship would be superfluous.

(4.) There are no stated times for the reception and registry of pupils, or as it is called in collegiate language, matriculating. Accordingly, they apply for admission at all times throughout the year; which must render it exceedingly difficult, or next to impracticable, to classify them properly, or to carry on their education systematically and comprehensively in the aggregate.

(5.) The whole system is deficient in a due application of stimulus. It appears from Mr. Tytler's reply to Question 25 that the pupils receive a monthly stipend from Government, *in proportion to the length of time they have been attached to the Institution*. Thus, a pupil on entering, is allowed eight Sonat Rupees per mensem, which is increased to 10 rupees the second, and to 12 rupees the third year. It would surely be better to regulate the allowance by individual merit, than by length of pupillage. Among the large number of ignorant and inefficient students brought to the notice of the committee, it will be observed that some of them entered their third year of study, and the majority their second; sufficiently shewing that proportioning increase of salary to mere residence at the Institution, is rather detrimental to their advancement than otherwise. It appears little short, indeed, of a premium on idleness. It is questionable if the maximum of monthly stipend during the period of study, as well as of the pay afterwards as a Native Doctor in the service; are sufficient inducements for high spirited young Natives of respectable connexions to offer themselves as candi-

dates. Add to this ; that there is no rank or comparative honor whatever, attached to the situation of native Doctor. During the period of undergoing instruction, the only stimulus presented to the mind is the pretty certain prospect of becoming a native Doctor, and nothing more. There is no apparent inducement for the intelligent student, while at the Institution, to exert himself more than the indolently inclined, or the dunce, no honour to be attained by the exertions that distinguish one student from his fellow, no reward for the exhibition of superior attainments, beyond the passing commendation of the master.

(6.) The period allowed at the institution for the education of the pupils, is from two years, to two and a half. This is by far too limited a course of study, for any thing but a very superficial amount of acquirement. It may have answered hitherto, in educating native Doctors, to the level of inferior Regimental Assistant Apothecaries, but it will fulfil no other purpose.

(7.) The want of means and appliances for the convenience of private study is glaring. The time passed in the lecture room develops the lessons of art and science ; but it is in the privacy of retirement that these lessons are digested and considered in their most important bearings. It is next to impossible for the students of the Native Medical Institution, to devote their private leisure to any thing like meditative and profitable study, while confined promiscuously to one apartment, where they all sleep or retire to, without the means of abstracting attention or cultivating reflection, subject to the interruptions, of each other, and wanting books, pens, ink, paper, and a table to write on, or a chair to sit upon, for the sleeping charpoy answers both purposes.

(8.) Their required attendance, upon the establishments for affording practical instruction, appears to be of a very desultory character. They are expected, as it were, to learn too many things at once, and accordingly in quick succession attend at the General hospital, the Native hospital, the Eye hospital, the Colingah dispensary, the Vaccine establishment and the H. C. Dispensary ; at none of which establishments is it obligatory on functionaries to attend to the advancement of the pupils of the Institution ; nor do we see how they possibly could, while the students are ignorant of the English language, even if these gentlemen could spare sufficient time for the purpose.

(9.) The powers and authority vested in the Superintendent, are, as at present understood, by no means precise. There ought to be a comprehensive code of regulations, to serve as a guide to him ; and there should be no interference whatever from without, either with his mode of teaching, or the nature of the subjects to be translated, or with the extent of tracts and manuals ; save on a formal representation by a committee, to be appointed by the Government.

(10.) At present we shall not advert further to the head of the final examination, save to remark, that we most entirely and very respectfully concur in the view expressed on that point, in your Lordship's minute. The present mode of examination is no test of solid qualifications, since Mr. Tytler admits that the course of education pursued by him is not to be considered as that, which if left to himself, he would prefer, but that which the circumstances he is placed in, combined with the extreme scantiness of the means of instruction, compel him to adopt. Nay he even distinctly avows (*see answer to Question 99*) that he has been obliged to instruct the pupils on many points, which he should have considered quite unnecessary, except to enable them to pass the examination of the Medical Board.

**XIX.** On a serious consideration of the facts before us relative to the system of education pursued at the Institution ; we cannot come to any other conclusion, than, that generally speaking, persons taught upon such a defective plan, ought not to be appointed to any but very subordinate situations in the medical service of the state. The basis of all Medical and Surgical knowledge is practical Anatomy, and the requirements of the students in this branch are but very superficial ; for of relative Anatomy they know next to nothing, nor is it in the nature of things that they should be better grounded. Their knowledge of the practice of physic, we fear, is but vague and theoretical. It is true that they attend at the General Hospital, but they are there merely spectators of what for the most part they do not understand ; all the cases being kept in the English language. At the Native Hospital, they can only follow the symptomatology and treatment of the case, by enquiries of the patients, since the cases, like those in

the General Hospital, are kept by an European Medical Gentleman. At both Hospitals, but few operations, comparatively speaking, are performed: To acquire the art of operating with any prospect of success, however, it is necessary that the student in the first instance, should practice on the dead body. But, it may be replied, an Alumnus Native Doctor of the institution, has actually amputated a limb: very good, but it would be necessary for us to be made acquainted with all the circumstances preceding, and following the operation, before we could express an opinion either as to its necessity or success. At any rate a solitary fact of this kind, will not do to found a general argument upon, in favor of the Surgical skill of all the alumni. As well might it be contended that because a sow gelder, it has been said, was the first to perform the cesarean operation successfully, in modern times, that one should always be called in, when there is a likelihood of such a desperate measure becoming necessary.—Neither can we concur in opinion, with Mr. Tytler, as to the competency of persons educated at the Institution, as now conducted, to the undertaking of any important operation. To render this point more clear, we beg to subjoin his reply to one of our questions. "The intelligent pupil might be safely trusted to perform most Surgical Operations, except to search for deep seated abscesses, amputation at the hip and shoulder joint, or Hernia, Lithotomy, and the extirpation of the more complicated tumours." "But," adds Mr. Tytler, "I do not assert that they could not perform these:" it would indeed be a marvel if they could, for in that case it would be almost unnecessary for the state to go to so much expense, in keeping up an European Medical staff for the Native army and at civil stations. Now Mr. Tytler's declaration virtually, assumes, that the Native Doctors educated at the Institution, are able to perform *all* operations whatsoever: save those of Hernia, Lithotomy, and the extirpation of the more complicated tumours, nay a modest caveat is entered even respecting them. To suppose all this, we cannot help thinking, is to yield to a pleasing delusion. The badness of the present system of teaching, is sufficiently apparent, from the testimony of the superintendent himself in his replies to Questions 41. 42. 43. It would be absurd to suppose, that such a contracted and desultory scheme of instruction could be capable of giving to the student, that insight into Medical Science which would be likely to endue him with a taste for medical knowledge, and a disposition to continue his studies after getting over his examination before the Medical Board. How many open a book after they have passed that ordeal? Indeed they have no books to open, but such tracts as they have already perused over and over again, and which cannot give them enlarged and practical views of their profession. Not only is the amount of their knowledge smattering, that gives them a reluctance to act upon their own responsibility—but though they have no official rank assigned them, yet, they fancy themselves at least on a par with those servants who receive the same rate of pay: and hence the abuse of their leaving to some understrapper, what is, and ought to be, a portion of their own duty. Several of the subordinate duties of the surgeon are too much for their fine nerves, and why? because they consider them beneath them—since having passed their examination they deem themselves elevated above such. The mere ability to enumerate a string of pharmaceutical terms and of answering a few detached questions in elementary chemistry, are no proofs that they understand the principle of chemical compounds.

XX. Your Lordship will have anticipated from the preceding remarks, that after the maturest consideration of the subject in all its bearings; it is the conviction of the committee, that the Native Medical Institution not only stands greatly in need of Reform, but of a speedy Reform. The scheme of Reform too we would respectfully submit to your Lordship, ought to be ample, comprehensive, and worthy of a great government; not intended merely to supply the wants of the state, but of the people, and to become what it may confidently be expected it would, a moral engine of great utility and power. Should the Government be disposed to admit this conclusion; and to adopt the committee's plan, it would, at the outest, be the simplest and the most expedient course to abolish entirely the present Institution, the Sanscrit College Medical class, and the Medical class at the Madrassa. To allow those Native Doctors already employed to continue their services to the state, till they became absorbed; and as an equivalent for such, to make an allowance of ten Rupees per mensem

to medical officers to find their own dresser and compounder. The amount saved to Government by the abolition of the Native Medical Institution, and the saving in the pay of Native dressers and compounders, according to this new rate, might be appropriated to the College.

XXI. To all reflecting men, it is obvious, that much remains to be done, for the advancement and regeneration, of Native mind and character, throughout India. It would indeed be a moral solecism, if at a juncture when the avenues to useful and trustworthy service in different departments of the State, are liberally and wisely open to qualified Natives; their accession to employ, in one of the most beneficial walks of life, should form the exception to such statesman-like views. The improvement of the Natives of India, in medical science, in importance, falls not an iota behind the consideration of their advancement in any other branch of knowledge whatsoever. The proper instruction of a body of Native youth in the science of medicine, has a direct reference to the interest of the Government and to the well-being of the governed. In administering the affairs of any country, the most economical mode of doing so, (to say nothing of other considerations) is, to put the indigenous moral energies of the country itself, as much as may be expedient, into effective operation for the purpose. This rule applies equally to the medical service as to any other. The employment of foreigners is attended with enormous expense, and every day, the necessity of reducing it, will become more and more apparent. If then, there be a possibility of educating Native Doctors, upon broad European principles, so as gradually to admit of foreign practitioners being dispensed with in the Native army and civil stations; here at once the direct interest of the state in this question becomes manifest. Nor is the indirect interest of the Government, in the matter, one of little weight, when we bear in recollection, that in proportion to the welfare of the people, will be the solid and legitimate prosperity of the ruling power. To alleviate disease and to save life, are objects of deep obligation on the statesman as well as the philanthropist. The mischief done by ignorant and presumptuous Native pretenders to Medical and Surgical knowledge, throughout India; and that daily, is incalculable. Entirely uneducated in anatomy or the simplest principles of chemical action, the Native quacks who prey on the people, hesitate not to use the most dangerous drugs and poisons, in such a heedless and unscientific manner as to produce lamentable consequences; and to make incisions and perform operations, that require anatomical skill and delicate handling. There is no part of the world, perhaps, under an enlightened Government; where there is so great a proportion of young people particularly children, carried off by sickness, compared with the births, as in India. Defective as the whole system of Native practice of physic, is at best in no respect is it so sadly wanting, as in the treatment of the diseases of infants and children. Much vice and iniquity arise too, in consequence of children being deprived by death of their parents, at an early age; and being thus left entirely at the disposal of unfeeling relations and friends, for subsistence; which lead them to form vicious connections, and to fall into abandoned habits. Parents on the other hand, are plunged into despair at the death of their children, and to say nothing of natural feeling, there is an obvious reason why they should when it is borne in mind that men of the middling and labouring classes who have the greater number of grown up children, are most free from pecuniary distress, have most comforts about them and make the best subjects.

A recollection of these facts will, we doubt not, constitute a grave claim upon the humane consideration of your Lordship. It is to be feared too, that native quacks are sometimes employed as the unprincipled but ready and secret agents of sinister designs; and it is notorious that Natives of rank will, at times without hesitation, receive medicines presented by Europeans, and made up by a Hukeem. Moral improvement of both parties may reasonably be expected to follow in the wake of sound and enlightened medical education; before which, degrading superstitions and their concomitant vices, would disappear. Justly taking pride in their own comparatively elevated position, and accustomed to offices of benevolence. Native Medical practitioners educated under such an improved system, would not fail to give a regenerative and liberal tone to society around them; which would gradually extend its benignant influence, and the

number of lives annually saved would add to the aggregate of general prosperity.

XXII. Agreeably to your Lordship's direction to that effect, we called upon Mr. Tytler to prepare a synopsis, of what he conceives, pupils at the Institution should be taught, in the different branches of Medical science. This document according to our view of it, does not contain by any means, such a comprehensive and improved scheme of education, as the circumstances of the case indicate the absolute necessity of. Leaving it entirely out of the question then at present, we would very respectfully submit to your Lordship in council, our serious opinion, that the best mode of fulfilling the great ends under consideration, is for the State to found a Medical college for the education of Natives; in which the various branches of Medical science cultivated in Europe, should be taught, and as near as possible on the most approved European system: the basis of which system, should be a reading and writing knowledge on the part of candidate pupils, of the English language, and the like knowledge of Hindoostanee or Bengallee, and a knowledge of Arithmetic; inclusive of course of proper qualifications as to health, age, and respectability of conduct. The Government might select from the various young men, who should pass the final examination the most distinguished and deserving, for filling up vacancies, as sub-assistant surgeons. A knowledge of the English language, we consider as a *sine qua non*, because that language combines within itself, the circle of all the sciences, and incalculable wealth of printed works and illustrations; circumstances that give it obvious advantages over the oriental languages, in which are only to be found the crudest elements of science, or the most irrational substitutes for it.

XXIII. Of the perfect feasibility of such a proposal, we do not entertain a doubt. Nevertheless, like any other, it will be found to divide the opinions of men of talent and experience. These will divide into an Oriental and an English party. Mr. Tytler's long replies, have imposed upon us the necessity, of entering at greater length into the argument respecting the feasibility of the contemplated plan, than we could have wished. We beg to apologize to your Lordship for this circumstance, but as Mr. Tytler instead of giving brief and simple answers to our questions, preferred committing them to paper in the form of long minutes; it became incumbent upon us to offer something in the way of refutation. The determined Orientalist having himself acquired the Sanscrit and the Arabic, at the cost of much, and severe application, as well as of pecuniary expense; will view with great repugnance a suggestion of teaching science in such a way as may cast his peculiar pursuits into the shade, and independent of a language which he reveres as classical. The advocate for the substitution of the English language, on the other hand, will doubt whether the whole stores of Eastern literature, have enabled us to ascertain a single fact of the least consequence towards the history of the ancient world; whether they have tended to improve morality, or to extend science: or whether with the exception of what the Arabian physicians derived from the Greeks, the Arabic contains a sufficient body of scientific information to reward the modern Medical student, for all the labour and attention, that would be much more profitably bestowed on the study of the English language; and lastly whether the modicum of unscientific medical literature contained in the Sanscrit, is worth undergoing the enormous trouble of acquiring that language.

Unlike the languages of Europe, which are keys to vast intellectual treasures bountifully to reward the literary inquirer, those of the East, save to a limited extent in poetry and romance, may be said without exaggeration, to be next to barren. For history and science thou, and all that essentially refines and adorns, we must not look to Oriental writers.

XXIV. Mr. Tytler has favored us with his opinions, on the question under consideration, at great length. The Rev. Mr. Duff whose experience in instructing Native youth, is extensive and valuable, has also obliged us with his sentiments on the subject; which are entirely at issue with those of Mr. Tytler, who takes up the oriental side of the question, with equal ardour and ingenuity.

Mr. Tytler denies, that a system of educating the Natives through the medium of English, would be in the least more comprehensive, or by any means so much so, as one carried on in the Native languages; (Mr. Tytler in that phrase including Sanscrit, Arabic, and Persian,) and considers it wholly inexpedient as a general measure.

The Revd. Mr. Duff, on the other hand, although acknowledging that the native languages, by which we understand the Bengalee in the lower provinces, and the Oordoo in the higher, alone are available for imparting an elementary education to the mass of the people, affirms that the *popular language*, does not afford an *adequate medium* for communicating a knowledge of the higher departments of literature and science, &c. "No original works of the description wanted," he observes, "have yet appeared in the Native languages: and though much of a highly useful nature has been provided through European talent and perseverance, no translations have been made, in any degree sufficient, to supply materials for the prosecution of the higher object contemplated, neither is it likely in the nature of things, that either by original publications, or translations of standard works, can the deficiency be fully or adequately remedied for such a number of years to come, as may leave the whole of the present generation, sleeping with their fathers," (*Answer to Question 20, p. 17.*)

XXV. Mr. Tytler's reasons for his unfavourable opinion, in regard to the proposed plan, arise, he informs us, partly from the nature of the language in general, and partly from the intrinsic difficulty of English itself. The difficulty it strikes us, is magnified in Mr. Tytler's imagination, and at any rate can scarcely be greater than that of acquiring Arabic and Sanscrit, which are about as foreign to the body of the people as English. "A bare knowledge of the English," observes Mr. Tytler, "or of the words for objects, is plainly no increase of knowledge, unless if be accompanied with some additional information respecting the objects of which the words are the signs." This is so self-evident a truism, that we are rather surprised Mr. Tytler should deem the stating of it, of any use to his argument. The mere capability of uttering the word opium, for instance, would be of little use, unless, accompanied by a knowledge of the qualities of that drug. It is not with a view to recommend a knowledge of mere words that we troubled Mr. Tytler for his opinion, and have now the honor of addressing your Lordship, but to rescue if possible the course of Native Medical education from this, its pervading and crying evil; for assuredly, nothing that has yet been made manifest to us, tends to shew that the pupils of the Institution, under the present system, acquire much beyond mere words; or to demonstrate, that an acquaintance with Sanscrit and Arabic vocables, will give better ideas of *things* important to be known than English. In fact to teach English science, English words must be used; or in their stead, Arabic and Sanscrit ones must be coined. With the highest opinion of Mr. Tytler's talents, acquirements, and zeal, and the greatest respect for his character, yet must we not be blinded to a certain degree of partisanship, which unconsciously, we doubt not, has apparently warped his otherwise excellent judgment, on this question. A discrepancy in his opinions on this subject, however, appears to exist, for he would to a certain extent teach the pupils—on English principles. If your Lordship will turn to Mr. Tytler's synopsis, it will there be seen, that he proposes to teach the pupils the Latin and English names of the corporeal organs, and of the articles of the *materia medica*. For this purpose he would instruct them in the English system of spelling and pronunciation, in the declension of Latin nouns, and their rules of concordance. He would, in a word, lead them to the half way house of English education, and there stop.

XXVI. "English," proceeds Mr. Tytler, "is one of the most difficult of all languages and the most diversified in its origin. It arises from three sources; Saxon, Latin, and Norman French. Its words and idioms vary in accordance with these three. Hence a correct knowledge of it can be obtained only by a certain degree of knowledge of the originals." For the attainment of a hypercritical or highly scholastic knowledge, such as is not possessed by one Englishman out of a hundred; Mr. Tytler's position may be readily acceded to. How many thousands are there, however, of Englishmen, persons of ability and intelligence in various walks of active usefulness, who know nothing, or next to nothing, pure Saxon, Latin or Norman French! Nay there is reason to suppose that there are not a few skilful and experienced surgeons not better versed in these languages, but who are valuable men in the profession notwithstanding. Will a Native sub-assistant surgeon be the less capable of being taught to amputate a limb, because he cannot give the critical etymology of the words, knife,

limb, cut ? surely the great ends of life are not to stand still, for want of knowledge of scholastic roots ? It would be superfluous to point out in a more elaborate manner, how very overstrained, and inapplicable to general experience, Mr. Tytler's argument is.

XXVII. As very apposite to the subject under consideration, we beg to submit an Extract or two from a forcible article by the late Dr. Duncan, Junr. on Medical education, which was published in the *Edinburgh Medical and Surgical Journal* for 1827. "The knowledge of languages in itself derives its chief utility from its facilitating the acquisition of useful knowledge ; and therefore as the mind may be nearly equally disciplined during the acquisition of any one language as of any other, their utility is directly proportional to the value of the information contained in the books written in them." Tried by this test how utterly mispent must be the time devoted by the Native Medical student to the study of Arabic, Sanscrit and Persian ! Proceeds the article quoted. "How many are there of an hundred"—says Locke "even amongst scholars themselves, who retain the Greek they carried from school ; or even improve it to a familiar reading and perfect understanding of Greek authors."—Continues Dr. Duncan. "It is argued in favor of the study of the Greek language that it is the language of the fathers of physic ; and that the terms of medical art have been almost all borrowed from it and the Latin ; and that it seems impossible to understand properly their meaning, without possessing some knowledge of the sources from which they have been derived. The first argument would be nearly equally conclusive in favour of the Arabic, that physicians might read Avicenna and Rhases in the original ; and with regard to the last, we shall reply on the authority of Dugald Stewart. 'It is in many cases a fortunate circumstance when the words we employ have lost their pedigree, or (what amounts nearly to the same thing) when it can be traced by those alone who are skilled in ancient and modern languages. Such words have in their favour the sanction of immemorial usage, and the obscurity of their history prevents them from misleading the imagination, by recalling to it the objects or phenomena to which they owed their origin. The notions accordingly, we annex to them, may be expected to be peculiarly precise and definite.' (*Stewart's Phil. Essay*, p. 184.) Indeed all attempts at descriptive terminology have utterly failed, and have impeded, instead of advancing, the progress of knowledge. Medicine (observes the eminent writer in another place) is a practical profession. The knowledge is most essential to its students, which renders them the most useful servants of the public ; and all reputation for extrinsic learning (such for instance as Sanscrit and Arabic) which is acquired at the expense of practical skill, is meretricious, and deceives the public by dazzling their judgment.

XXVIII. Although Mr. Tytler has throughout, unconsciously to himself, we doubt not, overstrained his argument, yet is there one passage, which we are free to confess, trenches on the extravagant. "The great sources of our language," he states, "must be shewn, the Saxon, the Latin, and the French. We must explain what words and what idioms are derived from each, and what changes they have undergone in their passage. Till this be all done, difficult as it may seem, we may by such practice impress upon the Natives a sort of jargon and agree to call it English ; but it will bear scarcely more resemblance to real English than to the dialect of the Hottentots." In a word, if we do not make Lexicographers of Native Sub-Assistant Surgeons, they will not be able to set a fracture, or to prescribe a dose of Calomel ; and their English remarks or directions, though perfectly intelligible, will amount in fact to nothing, but a Hottentot jargon ! Need we, in refutation of this exaggerated view, remind your Lordship, that there are many respectable Native gentlemen in Calcutta who both speak and write English correctly and fluently ? The works of the late Rammohun Roy were not written in a Hottentot dialect : and at this moment there are three Newspapers in Calcutta, printed in the English language, and yet edited by Natives. Why should not other native students be equally successful with those alluded to ? We readily grant that much is to be yet done to render the English language more popular in India, but assuredly the most likely way of effecting this very desirable end, is not to bestow a premium upon the study of Arabic, Sanscrit and Persian, and to close the portal of employment to the English student.



According to Mr. Tytler, it is not only the difficulty of acquiring the English which is such a formidable obstacle in the way of the learner; but the almost insurmountable one of finding properly qualified English Teachers. We beg to refer your Lordship to his observations on this head, contenting ourselves with the remark, that if English is not to be taught to Native Medical students, until such an Utopian selection of school masters, as Mr. Tytler indicates, be made; then must the English language and the treasures of scientific knowledge it contains, be long to them, a fountain sealed.

XXIX. Mr. Tytler has several elaborate comments on the study of Greek and Latin, the scope of which is to shew, that these languages had a greater affinity to the English language, than English has to Sanscrit, Arabic, and Persian. The argument is ingenious but far from conclusive. Latin and Greek, indeed, were the languages of the learned in Europe, as Arabic and Sanscrit are of the learned in India. There the parallelism ends. English, however, enjoys an advantage that Latin did not at the epoch alluded to by Mr. Tytler. It is a *living* language. It is the language of a great people, many of whom it may now be expected, will settle in this country; it is also the language of the governing power. It is not too much to expect, that the time is not far distant, when English will become much more popular than it is, and when to speak and write it correctly, will be deemed a distinguishing privilege. Let English have fair play, and be placed at least upon a par with Sanscrit, Arabic, and Persian; and it will become manifest to the most indifferent observer, that the Natives study the latter, not because they are the best media for instruction; but because they lead to employment and competency, which the English does not. Perhaps an exception should be stated with reference to the Sanscrit—judging from a recent memorial, of a number of Hindoo youths, to the secretary of the sub-committee to the Sanscrit College; representing that after many years spent in the study Sanscrit, they are in a destitute condition, as they can find neither employment nor consideration among their countrymen.

XXX. So long as European literature was confined to Latin, Mr. Tytler estimates the attempts of our ancestors as mere forced imitations of the classics, the far greater part of which are now deservedly forgotten. Supposing the fact to be even as stated, it cuts both ways, and we may by a parity of reasoning assume, that so long as Eastern literature is confined to Sanscrit, Arabic, and Persian; the writings of Indian students, will be mere forced imitations of the Sanscrit, Arabic, and Persia Classics. But Mr. Tytler is a great deal too sweeping in his remarks; for many of the works of our ancestors in science, morals, and poetry that were written in Latin, so far from being forgotten, are held in the highest estimation, even at this day, and are remarkable no less for strength of reasoning, than for purity and elegance of expression. We shall be perfectly content if Native students should be found to think as justly and write as beautifully in English, as Buchanan, Bacon and various others did in Latin; or to come nearer our own times, and in a professional walk, as Harvey, Sydenham, Boerhave, Haller, Heberden and Gregory did, in the same language.

It should be borne in mind, that when Latin was, it may be said, the cradle of science, the English language had not attained that fulness and correctness of which it can now legitimately boast. The style of vernacular writers was not formed, being quaint, pedantic and vitiated; composition was in its infancy, and there were but few writers. The times too, were far from favorable to the cultivation of letters.

To compare English composition as it was in those days, with what it afterwards became, would be to institute a comparison between a Hindoo figure maker, and Canova. Ever since the Reformation, the English language has been advancing to its present magnificent state of universality, copiousness and beauty. It would indeed be a strange thing, if in our day, when more works are published in a year than were, in the olden time printed in half a century; the Native youth of India who may turn to the study of English, should, in defiance of the standard works put into their hands, and in spite of precept and example, follow such pedantic and vitiated models as those alluded to by Mr. Tytler. Facts daily occurring around us, demonstrate the groundlessness of such a fear.

"As it was in Europe," contends Mr. Tytler, "so it will be with the English productions of the Natives of India, they will be a mere patch-work of sentences

extracted from the few English books with which their authors are acquainted." Mr. Tytler should at least have shewn, that to produce such an effect, the circumstances were precisely the same in the two countries. How he has reached his postulate, he has not condescended to say, nor is it of much importance to know, for it is after all a hypothetical assumption. In recommending that Native Medical students should possess a knowledge of English, we are swayed by a hope, not of their writing books good or bad, but of their thoroughly understanding and digesting valuable works in that language, comprising as it does an inestimable body of scientific information; and in progress of time, of their translating them into the vernacular tongues of India, for the benefit of their countrymen. We wish them to be able to drink at the fountain head, instead of depending to allay their mental thirst with dribbets of translations, occasionally, from the hands of an European.

XXXI. But the exclusive study of English, Mr. Tytler deems, will be chargeable with producing an effect which he greatly deprecates. It must necessarily, he thinks, discourage the Native from the cultivation of *their own tongues*. Were Arabic and Persian their own tongues, there would be some shew of reason in the objection; but when we bear in mind that they are as foreign to the people as English, its validity vanishes at once. To the great body of the people too, the Sanscrit is in effect quite a foreign language. Of the absorption of that language we need have no fears so long as it is the interest of the Brahmins to foster it. But if the thing were possible, we are by no means disposed to view the substitution of English for these tongues as a misfortune. As to the objection that the study of English would put an end to all Native composition and indigenous literature; we would simply enquire if there is in the world a less edifying and more barren literature than that of Hindoostan, or one that has done less for morality, philosophy, and science?

With reference to that imitation of English writers, which Mr. Tytler assumes would beset Native students, that gentleman quotes with complacency a saying of Johnson, that no man was ever great by imitation and amplifies the apophthegm so as to comprehend masses of men; as if the saying stood, that no *people* ever became great by imitation. The saying thus applied, becomes an untenable sophism;—for on reflection, we shall find that the converse of the positon hold true; since civilization itself is nothing else but a complex system of imitation.

XXXII. We beg now to call your Lordship's attention to the opinions of the Rev. Mr. Duff. In reply to the question whether in order to teach the principles of any science to Native boys he considered it necessary that they should know Sanscrit, Arabic, and Persian; the Rev. gentleman replies, that in reference to the acquisition of European science the study of the languages mentioned would be a sheer waste of labour and time; since viewed as media for receiving and treasuring the stores of modern science, there is, at present, no possible connexion between them. On the other hand, in reply to the question if he thought it possible to teach Native boys the principles of any science through the medium of the English language; he replied, that the experience of the last three years has, if possible, confirmed the conviction he previously entertained, not merely that it is possible to teach Native boys the principles of any science through the medium of the English language, but that in the present incipient state of native improvement it is next to impossible to teach them successfully, the principles of any science through any other medium, than the English." He further records his opinion that the study of the English language might be rendered very popular among the Natives. "The sole reason," he justly observes, "why the English is not now more a general and anxious object of acquisition among the Natives, is, the degree of uncertainty under which, they (the natives) still labour as to the ultimate intentions of Government, and whether it shall ever lead them into paths of usefulness,—profit, or honor, only let the intention of Government be officially announced, and there will be a general movement among all the more respectable classes." But the teaching of English acquires much importance when we consider it with Mr. Duff as the grand remedy for obviating the prejudices of the Natives against practical anatomy. The English language, he urges (*Mr. Duff's replies page 32*) opens up a whole world of new ideas and examples of success in every department of science, and the ideas so true, and the examples so striking, work mightily on the susceptible minds of Native youth so

that by the time they have acquired a mastery over the English language under judicious and enlightened instructors, their minds are almost metamorphosed into the texture and cast of European youth, and they cannot help expressing their utter contempt for Hindoo superstition and prejudices.

XXXIII. There is an argument of fact put in by Mr. Duff, which is admirably to the point. We allude to the introduction of the English language and of English science, among the Scottish Highlanders, whose native language to this day is the Gaelic. The parallel is a very fair one, for no people were more superstitious, more wedded to their own customs, and more averse to leaving their native country than the Highlanders; but since the introduction of the English language among them, the state of things is much changed. The same observation applies to Ireland and Wales, where, as in the Highlands of Scotland, the English is a foreign language, and yet its acquisition is eagerly sought after by the natives of all these countries, as an almost certain passport to employment. There are Medical men, Natives of these countries, scattered all over the world, whose mother tongue is Welsh, Irish or Gaëlic, which, as children, they spoke for years, just as the children of European parents in India speak Hindoostanee and Bengalee: with this difference, however, that, the latter soon forget the oriental tongues; while the youth who acquire the indigenous language of Ireland, the Scottish Highlands, and Wales; never lose the language of those countries, because they do not quit them till a more advanced period of life. For the first years of youth, the Highlanders at school, even of all ranks, think in the Gaelic; but this does not prevent their acquiring such a fluent and business-like knowledge of English, as to enable them to pass through life with credit, and not unfrequently with distinction. What is there in the condition, physical, or moral of the Natives of this country, that should render them incapable of acquiring English as easily as the Irish, the Highlanders and Welsh?

XXXIV. We now come to the last and most important part of our inquiry, viz., the nature and extent of the measure of Reform that suggests itself to us. At present there are about 471 Native Doctors in receipt of pay from Government varying from 10 Rs. a month to 60. The aggregate expense to Government\* for these is about Rs. 86,287-10 per annum, of this sum about Rs. 34,560 per annum is paid to Native Doctors supplied from the Institution, whose pay averages about 24 per mensem there being 120 in number. Of the remaining 351, we would respectfully propose to reduce the whole at once to Rs. 10 per mensem, which is the salary that the majority now draw and a saving of Rs. 9,607-1 per annum would accrue. But the eventual saving to Government, after the present race have become absorbed, will be Rs. 29,707-1; add to this sum the expences of N. M. In which, according to Mr. Tytler's report exclusive of the lithographization of tracts, (the expense of which we have not been able to ascertain) is 33,960, per annum and again, allowing for 50 students on the foundation instead of 70, there would be a saving of the monthly stipends of 20 lads averaging 8 Rs. per mensem or say 1,920 per annum. Add still further the sum in round numbers say of Rs. 8000 per annum; that would be saved by the abolition of the Sanscrit College Medical class, making a grand total of Rs. 73,677-1.

XXXV. In the foregoing then, there is something to begin with, though, in establishing a College such as is proposed, the Government must be prepared to incur additional expense; as it is intended that the new plan should comprise a much more extensive range of education than any hitherto propounded for Bengal. It might perhaps be deemed that we travelled beyond our province, were we to indicate how the scheme might be put in the way of adoption, without putting Government to so much expense, as otherwise must necessarily be incurred. Nevertheless, a sense of the duty imposed upon us by your Lordship, in selecting us for this investigation, impels us to declare, that large sums are now bestowed by Government upon the mere cultivation of Sanscrit and Arabic, which might be much more profitably and beneficially devoted to English literature and science. We are the more emboldened in delivering this opinion by the circumstance of the general concurrence of intelligent Natives themselves, so far as their sentiments have become known, in the views of the committee upon this important point.

\* Vide Returns from civil and military auditors.

XXXVI. None but pupils of a more respectable class than those hitherto admitted, ought to be received into the Institution. This point may be accomplished in proportion to the prospects held out by Government in a pecuniary sense, to students on entering the service. The greater the inducement to enter upon their professional studies, the greater will be the demand for admission into the Institution. If it be previously announced that all candidates are to be subjected to an examination by a properly constituted body; as to the extent of their acquirements, basing the same upon a fixed standard of qualification, a line will be drawn, so as, in most instances, to ensure the respectability of applicants: while the distinction of castes, which has already been productive of evil to the Institution, and led to misunderstanding, by the system of deception practised, might be thrown aside altogether. In short, the selection of students would rest upon their previous character, conduct, and qualifications.

XXXVII. The collegiate Institution contemplated should be formed with all practicable expedition. It might be entitled the *Calcutta College of Medicine*; in which Lectures should be delivered on the following subjects. 1 Anatomy with dissection of the human body, 2 Chemistry, 3 Materia Medica and Pharmacy, 4 Practice of Physic, 5 Surgery and Midwifery, 6 Clinical Lectures and Medico-legal Medicine.

There should not be less than three Lecturers to teach the above branches. The Lectures of course to be delivered in the English language. A Superintendent or Rector should be attached to the Institution, whose duty it would be to have a general supervision of the whole, but without any authority to interfere directly with the Lectures. He would also have to audit all the accounts of the Institution.

A Hospital should be attached to the Institution itself, capable of holding a hundred beds; as it is impracticable to convey the necessary instruction to the pupils at the General and Native hospitals, even if these establishments were quite convenient in other respects.

The Hospital might be attended (each in his own walk) daily, by the Professor of the practice of Physic, and the Professor of Surgery, assisted by such pupils as they chose to select.

The winter session to commence on the 15th October and to terminate on the 15th March of each year; and the summer session to begin on the 15th April and to terminate on the 15th August or such other time as might be fixed upon by the College Council. The period between the termination of one session, and the commencement of another, to form a vacation for professors and students.

XXXVIII. Previous to admission, each candidate should undergo a preliminary examination by the Rector, assisted by one or more of the professors. No candidate should be admitted under fourteen and over eighteen years of age. No candidate should be admitted labouring under any permanent physical defect whatever, the qualifications required of a candidate should be respectability of connexions and of conduct. A fluent writing and reading knowledge of English and Bengalee, or of English and Hindoostanee. A knowledge of the principles of the first four rules of arithmetic.

No candidate (all other requisites corresponding) to be admitted who would not guarantee, by himself or representative relatives or guardians, to finish his education at the Institution.

All pupils to be admitted, if properly qualified, on a principle of competition, without exception to creed or caste.

The pupils to be entertained on a general principle of teaching them their profession, without any pledge of conferring appointments upon them; but merely with an understanding, that the vacancies in the service, should be filled up from those who should prove themselves the most deserving of the reward, by diligence in their studies and by the result of a public examination.

XXXIX. The whole school might be divided into three series or sections, to be named alphabetically, A. B. C. There should be a fixed standard of knowledge required of each series, so as to found the privilege attached to each upon the progressive advancement of the students; without any reference to the hitherto prejudicial rule of their standing as to time in the Institution. The formation of these series should be left entirely to the discretion of the *Senatus Academicus* or Rector in communication with two professors, who would of course

bear in mind the importance of regarding good moral and general conduct, as an indispensable qualification for promotion. The advantages of this arrangement would be a check upon irregular, or improper, or negligent conduct; and it would operate as a greater stimulus to study, by its tendency to excite emulation among the pupils. This change in the system of monthly payment would be brought to bear more forcibly, if the various grades of stipend to the pupils were higher than hitherto, say then instead of 8 10 and 12. On entrance 7 Rs. second class 10 Rs. first class 14. No additional expence to the State would be incurred by this arrangement. To induce respectable young men to take advantage of this Institution, and as a remuneration for the higher qualifications required, the greater length of time occupied in education and the consequent expence and anxiety incurred by the pupils; it would be desirable to create a higher standard of appointments for those so educated, than any yet available for native talent and adventure. A new class of Medical situations might be formed consisting of three grades, viz. Sub-assistant Surgeons; Hospital assistants to the forces; Hospital assistants. The senior class to hold a lower rank than that of assistant surgeons.

XL. The professors in order that they might give themselves up entirely to the performance of their very responsible and onerous duties, ought to be maintained upon a liberal salary. They would also enjoy certain privileges and powers, individually and collectively. Under the first head would fall the enforcement of penalties for non-attendance on Lectures; the selection of his own assistants, &c. &c. Under the second would be included a general controul over the internal economy of the Institution in academy; the nomination of days and hours for the various lectures; the selection of pupils for the different classes, recommendation of candidates for prizes, &c. The duties of the professors to be distinctly defined. The superintendent and the professors to form a *senatus academicus*, which should annually choose its own president on the day preceding that of the opening of the winter session. Any member of the profession at the presidency, in the service, might be amenable to the honor of being nominated president for the year. No suggestion or modification of an existing rule, or new rule to be adopted until the sanction of higher authority should be obtained, respecting which tribunal we are now to submit our views to your Lordship.

Hitherto the Native Medical Institution has been subject to the control of the Medical Board, and owing to that controul being exercised sometimes in a suggestive, and sometimes in an absolute manner, arising, perhaps from the somewhat ambiguous nature of the general order already alluded to, much misunderstanding and difficulty have sprung up, clearly prejudicial to the best interests of the institution. Supposing however, that neither had occurred, it is even still questionable, whether, in vesting the controul of the Institution in the Medical Board, such an arrangement be the best calculated to fulfil the required ends. The objections, that militate against it are, the frequent charges which take place in the individual members of that Board. Upon an average there is a new member or a new acting member every 18 months. Each individual, as he enters, has no previous knowledge (having had no opportunity to acquire any) of the institution—or should he perchance, have particularly directed his attention to its nature, it is not improbable that he might have some alteration to suggest, and which might, on his recommendation alone, be adopted, though such an innovation might, on grounds not obvious to him, be objectionable.

The second ground of objection is, that a sojourn probably of many years in the Mofussil, from which a member of the Medical Board almost invariably emerges on taking his seat, as well as the effect of a long and arduous service in a trying climate, are circumstances not likely to favour his qualifications to enable him to enter on the new duty of regulating the intricate, though important details, which occur in the arrangement of academical concerns.

A better plan appears to us to be, to place the general controul of the institution in the education committee, constituting its members, the governing body: an appeal however laying from its decision, on the part of the *senatus academicus*, to government, when such a step might be deemed necessary by that body. This arrangement, however, has also its objections, because the gentlemen composing the education committee, are none of them members of the medical

profession, and it may hence be inferred, that they cannot have any acquaintance with the subject of medical education, and that they are not the persons best qualified to express an opinion on the subject. To provide for this, it might be expedient, to add to the committee of education, two or three medical gentlemen holding permanent appointments at the presidency. It would be desirable to appoint more than one for obvious reasons, and more especially, as it is not unreasonable to suppose, that on a purely medical academical question, the majority of the committee would be influenced in their opinion, by the views of the individual representing, as it were, the medical profession; and if there was but one, it is possible that the Medical College might be directed by his views alone, which would scarcely be just to the *senatus academicus*, in case of a mooted question.

XLI. Inferring as we do, from one or two passages in your Lordship's minute, that in founding such a collegiate Institution as we propose, it could not be the sole object of Government to confine its advantages to the military and civil departments of the state; but that the end is, not only the supply of proper functionaries for these departments, but also to turn out a class of individuals, who, by virtue of their professional acquirements, would not only supersede the unprincipled empirics who infest every village and town of India, but men competent to supply the place of foreign practitioners among their countrymen. If then, this is the correct view of the subject, it will be admitted that to accomplish the wished-for end, one of the first and most important steps will be, to bring together as large a body of pupils as possible; and then arises the question as to the comparative influence of Europeans, and Natives, in inducing pupils to enter the institution. If we should succeed in throwing on the Native community a certain number of their own countrymen, who had obtained the legal certificates to practice the various branches of medical science in an English College; it is rational to believe, that their acquirements would soon be called into action, by the vast opportunities they would have of displaying their knowledge, and rendering valuable service to their own countrymen. Their fame would soon become established and it would not be long, before those natives of the higher classes who employ European Medical practitioners, would largely and gladly avail themselves of the professional advice of their countrymen in preference.

As the value of Native Professors became apparent, so would their influence and importance increase in their own community. If then we eventually placed the Institution in their hands, and they were paid (as Lecturers are in England,) by the numbers they are called on to teach, it would be a leading object with them to exert the influence which they gained by the exercise of their professional knowledge, and induced their brethren to enlist under their auspices for similar advantages and honours. If in due time the Institution should be thus formed and become popular, (which under good management there is little reason to doubt) a considerable saving to Government might be anticipated. The monthly stipend, might in the course of time, be considered an unnecessary inducement for pupils entering the Institution. A considerable reduction might be made in the European medical service, as the Native Doctors would become competent to take charge of Native corps. The present expensive and useless (because it has never been carried on to the required extent) system of translating medical tracts, might also be conducted by Natives, without costing the state scarcely anything. The services of natives for that purpose could be procured at reduced though adequate salaries. There are other objections to European Professors. The difficulty of filling up vacancies in case of death or absence. For it would be very difficult to find men competent to the task of lecturing, at a moment's warning. The most efficient would be found only among the juniors of the service, as they are freshest from the schools, and the appointment of young men on high salaries might excite a feeling of jealousy among the seniors. Again, there is no security that in the event of a vacancy, private interests might not fill the appointment. If once incompetent persons were made professors the Institution would be ruined. Lastly the great expense of European Professors.

But how are we to get qualified native professors? By no other means than those adopted so successfully by the Pasha of Egypt at the instance of Clot Bey, by sending in the first instance a certain number of Native students to England,

there to enter the Hospitals and undergo the regular course of Medical education. That intelligent Natives having a good knowledge of the English language, and possessing good elementary acquirements, could be found to go to England there is little doubt. We have the opinion of Mr. David Hare on this subject, who says he knows many who would gladly avail themselves of an offer to go, provided their expenses were paid. In a word, it is his conviction that there would be no difficulty in procuring the necessary number, and between Mr. Duff's school and other seminaries in Calcutta, it is our own impression that boys sufficiently qualified would be found as volunteers, in a path that must lead to certain distinction, and open to them new and brilliant prospects in life.

From all the evidence before us, we have not a shadow of doubt, but the prejudices of the natives against the practice of human dissection would soon be as successfully got over in Calcutta, as they were at Cairo by Clot Bey. The Vaid students at the Sanscrit College, would be glad to avail themselves of opportunities to acquire a knowledge of practical anatomy tomorrow, if the thing could be managed in secret. They have themselves entirely got rid of their prejudices on this head, and their wish to cultivate such pursuits in secret, is merely a sacrifice of policy to the prejudices of those among whom they are to acquire their bread: for if it were known generally that during the hours of tuition, they touched a human bone, much less a dead body; it would create a repugnance to employing them, that must end in their ruin.

The following extract from the *Lancet* of March 1833 respecting Clot Bey's proceedings in Egypt; are so pertinent to the subject under consideration that we trust to be excused for bringing it under your Lordship's notice.

"The tact of Clot-Bey in explaining away and removing the prejudices, both of the priests and the people, against dissection, evinces a sagacity and plainness of purpose for which he deserves high praise. The pupils whom he had to instruct, had, for the most part, been educated in the mosques. Hence, in their opinion, the touching of a dead body was an irreligious act. How, then, could he imagine, that they would be induced to dissect, though without anatomy there could be no science of medicine? At this moment of perplexity, the Viceroy was appealed to, who, though favourable to the innovation, was unwilling to risk an open rupture with the prejudices of the community. Thus situated, Clot-Bey took the desperate resolution of appealing to the Ulemas themselves. These persons were not slow to perceive that, in appropriating to themselves the practice of a useful science, they would thereby augment their own credit and influence. Many conferences were accordingly held, and many objections had to be removed, before even their tacit consent could be obtained to the project. The Ulemas believed that the dead body suffered by the mutilations of the scalpel. To this it was answered, that if such were the case, the deceased must suffer equally from the worms. In the latter case, the sufferings of the dead body were as inevitable as useless, it was therefore suggested that it must be better to substitute for this mode of suffering, another one which would have the good effect of enabling living men to employ means for their own preservation when diseased. It was further shown, that this end was to be obtained by diffusing a knowledge of the structure of the human body,—as, when a watch was out of order, its movements could only be restored by a person acquainted with its mechanism, &c. By such arguments the Ulemas were disarmed, the pupils were then soon reconciled to the study of anatomy, and all Cairo heard, without being agitated, that dissections were performed at Abouzabel, and thus did the founder achieve his purpose despite a thousand ardent and dangerous enemies. Some of the Ulemas, to their honour be it told, now rank among his most efficient assistants, and the vocabulary already mentioned is, in part, the work of one of these individuals—the Seld Ahmet Er-Rachidi.

From the foundation of the school, to the year 1831, one hundred and fifty capable and well educated doctors have been sent forth to practice. The cholera broke out in Egypt in the course of that year, and the conduct of these fresh disciples, under the trying circumstances of the epidemic, was truly heroic. Its ravages were frightful. Most of the Europeans, and many physicians, fled, while the young practitioners were indefatigably rivalling their seniors in zeal. They remained at their posts, and thirty of them became victims to their devotedness.

Clot-Bey has not only established a school of medicine on the confines of the desert, but he has also taken the only measure by which the work, so well begun,

can be perpetuated—namely, that of furnishing the chairs of the institution with national professors. With this view he has taken to France twelve Arabs, chosen for the superiority of their capacities, who are to perfect themselves in the respective departments of the professors whom they are destined to succeed.

In every point of view, the foundation of this school is an important conquest for civilization. The science of medicine is so based entirely upon the other branches of human knowledge, that the establishment of good and comprehensive medical institutions may be regarded as the most important step towards the diffusion of knowledge in general. The upper and middle classes of the nation in which such institutions exist, cannot long remain an ignorant and enslaved people. Let this be remembered, when the constitution of our medical corporations shall be duly investigated."

There is a circumstance connected with the Institution at Abouzabel which the opponents of English system of education recommended by the committee, might perhaps advert to with exultation, as furnishing a strong argument upon their side of the question; it is that he and the other Lecturers deliver their prelections in Arabic. Now the moment we learn the *cause* of this circumstance, will its value as a make weight on the opposite side of the question disappear. Let us hear Clot Bey's own version, of his reasons, for adopting the Arabic as the medium of Instruction.

"Great obstacles," he states, "stood in my way; one of the first was to decide on the language to be employed in teaching. It was impossible to find pupils acquainted with French or Italian; besides, the time it would have required to teach them, and other motives, convinced me of the necessity of teaching them medical science in their own idiom. Once determined on this point it became necessary to find, for Professors not acquainted with Arabic, the means of transmitting their ideas. This I thought might be effected by employing translators who were acquainted with the languages both of the pupils and their masters, and which translators should themselves be pupils, destined to teach hereafter what they were now to learn."

This completely alters the aspect of the matter for we find Clot Bey not acting from choice but an imperious necessity.

"It was impossible to find pupils acquainted with French or Italian." Were the circumstances precisely similar here as in Egypt, we should adopt the same line of conduct as Clot Bey did, and deliver the Lectures in the most popular language, of the country, the Hindoostanee. The case however, is widely different, for here there is no difficulty whatever in getting Native pupils acquainted with English.

Were the plan adopted, which we strongly recommend to your Lordship, of sending home a certain number of pupils to study in England; it would be necessary that they should be in the acquirement of professional knowledge for five years before they could obtain their diplomas. This would afford time for maturing an Institution in Calcutta, under charge of three European professors and a Superintendent or Rector; so that when the education of the native students sent to England should be completed they would be able, on their return to this country, to do duty as assistant surgeons at once, and as the European Professors retired or died off they could step into their chairs, succeeding them on reduced salaries. In this way a constant succession of Native Professors could be kept up. The cost of sending Eight Native young men to England and of their education on a liberal scale for the term specified, would be about £ 10,000.

We have thus endeavoured to the best of our ability to execute the task which your Lordship did us the honor entrust to us. We have avoided in reference to the plan proposed, for ameliorating the system of Native Medical education, to trouble your Lordship with details; should the general scheme meet your Lordship's approbation these could be duly entered into afterwards, by a Committee selected for the purpose.—*India Journal of Medical Science*, March 1835.



# GOVERNMENT GENERAL ORDER FOUNDING THE CALCUTTA MEDICAL COLLEGE.

*Government General Order No. 28 of 28th January 1835.*—The Right Hon'ble the Governor General of India in Council is pleased to pass the following Resolutions :

1st. That, the Sanscrit College Medical Class, the Medical Class of the Mudrussa, and the Native Medical Institution, be abolished from the 1st Proximo.

2d. That, such of the Students of the Native Medical Institution as are now capable of passing their final examination, shall be appointed Native Doctors, and all the other Students of that Institution be transferred to the Native Corps of the Army upon their present Salaries, to become Native Doctors when represented to be duly qualified by a Committee of Medical Officers ; or, if not found qualified in two years, to be discharged.

3d. That, a new College shall be formed for the instruction of a certain number of Native Youths in the various branches of Medical Science.

4th. That, this College shall be under the control of the Education Committee.

5th. That, the Education Committee shall have the Assistance of the following Medical Officers,—Ex-Officio :

The Surgeon of the General Hospital,  
The Surgeon of the Native Hospital,  
The Garrison Surgeon of Fort William,  
The Superintendent of the Eye Infirmary,  
And the Apothecary to the Hon'ble Company.

6th. That, instruction be given through the medium of the English language.

7th. That, a certain number of Native Youths, whose ages shall not exceed twenty years, or be less than fourteen years, shall be entered upon the Foundation, as Foundation Pupils of the Institution.

8th. That, all Candidates for admission as Foundation Pupils, shall be required to present respectability of connexions and conduct, shall be able to read and write English and Bengallee, or English and Hindoostanee, and with these qualifications all Natives, between the age of 14 and 20, shall be equally eligible without exception to creed or caste.

9th. That, the Candidates shall be examined by the Education Committee and the Superintendent of the Institution, and that the selection of the Pupils shall be determined by the extent of their acquirements.

10th. That, the number of the Foundation Pupils shall be limited to fifty.

11th. That, the Foundation Pupils shall each receive a Monthly Stipend from the Government of 7 Rupees, which may be increased according the following Rule.

12th. That, all the Foundation Pupils be divided into three Classes, each Class having a different Salary :

The 1st Class 7 Rupees per Month.

The 2d Class 9 Rupees per Month.

The 3d Class 12 Rupees per Month.

13th. That, the formation of these Classes shall be entrusted to the Management of the Education Committee and the Superintendent of the Institution, it being distinctly understood, that the Classification will depend upon the acquirements of the Pupils, and not upon the period of their studies ; excepting that no Pupil shall, during the first two years of being on the Foundation, receive a higher Salary than 7 Rupees per month, but that afterwards the increase will depend upon the Classification.

14th. That, the Foundation Pupils shall be expected to remain at the Institution for a period of not less than four years, and not exceeding six years.

15th. That, all the Pupils be required to learn the principles and practice of the Medical Sciences in strict accordance with the mode adopted in Europe.

16th. That, all the Pupils who shall have completed their Studies according to the form prescribed shall be entitled to have Certificates signed by the Superintendent, to enable them to present themselves for final examination.

17th. That, the final examination for granting Certificates of qualification to practice Surgery and Medicine, or, for admission into the Service, shall be publicly made by the Committee of Education, assisted by the Medical Officers above-mentioned.

18th. That, such Pupils as shall be deemed qualified to practice Surgery and Medicine shall receive Certificates of qualification signed by the President of the Committee of Education, and countersigned by the Secretary of that Committee and the Superintendent of the Institution.

19th. That, the Public service shall be supplied with Native Doctors from the Institution, and with a view to this object, whatever appointments may happen to fall vacant during the period which intervenes between two Examinations, shall be offered for the acceptance of the Students who pass at the Examination next ensuing. The selection shall be regulated by the extent of professional acquirement.

20. That, as an inducement for Pupils of a respectable class to enter the Institution the pay of the Native Doctors, who shall have been educated at the College, and have received the Certificates of qualification, shall be 30 Rupees per month. After seven years' service their pay shall be 40 Rupees per month, and after 14 years' 50 Rupees per mensem. After 20 years' service they shall be entitled to retire upon a Pension, regulated according to the proportions granted to Native Commissioned Officers of the Army, if no longer capable of performing duty from age, disease or wounds.

21st. That, the Education Committee shall be charged with providing a suitable building for the College, a Library, Anatomical Preparations, and all other objects of an indispensable necessity to the Education of the Pupils; the expense being previously submitted for the sanction of the Council of India.

22nd. That, the College shall be under the management of an European Superintendent, who shall devote the whole of his time to the interests of the Institution, and who shall not be permitted to enter into private practice, or to hold any situation that can in any way withdraw his attention from his duties at the Institution.

23rd. That, the Superintendent shall be permitted to draw a Staff Allowance of 1,200 Sonat Rupees per month, in addition to his Regimental Pay and Allowances.

24th. That the Superintendent shall be aided in his duties by an European Assistant, who shall draw a Staff Salary of 600 Sonat rupees per month, in addition to his Regimental Pay and Allowances.

25th. That, the European Assistant shall devote the whole of his time to his duties at the Institution, and that, he shall not be permitted to enter into private practice, or to hold any situation that can withdraw his attention from the interests of the Institution.

26th. That, the European Assistant shall exercise no control over the management of the Institution excepting by permission of the Superintendent; but that, he shall confine himself to the duty of assisting the Superintendent in the work of Educating the Pupils.

27th. That, the whole management of the Institution, the Charge of the Pupils, the mode of teaching, and all the arrangements shall be entrusted to the judgement and guidance of the Superintendent, under the control of the Education Committee.

28th. That, the Superintendent shall make Half-yearly Reports upon the state of the Institution to the Education Committee, by whom these Reports shall be forwarded with their sentiments, to the Government of India.

29th. That, the division of duties of the Superintendent and of the Assistant shall be made at the discretion of the former, subject to the control of the Education Committee.

30th. That, the Superintendent with the aid of his Assistant shall be expected to instruct the Pupils in Anatomy, Surgery, Medicine and Pharmacy, and to qualify them for Medical Charges, either Civil or Military.

31st. That, the Pupils shall visit to witness the practice of the General Hospital, the Native Hospital, the Hon'ble Company's Dispensary, the Dispensaries for the Poor and the Eye Infirmary.

32d. That, the Superintendent shall be supplied, under the direction and management of the Education Committee, with a certain monthly allowance of Stationery for the use of the Institution.

33d. That, the formation of a plan of Medical Education, and the Rules and Discipline of the Institution, shall be entrusted to the Education Committee.

34th. That, in addition to the Pupils on the Foundation, the benefits of this College shall be open to all classes of Native Youths between the age of 14 and 20, without exception to creed or caste, provided they possess respectable connexions and conduct, and can read and write English and Bengallee, or English and Hindoostanee; and that all thus qualified shall, at the discretion of the Committee of Education, be permitted to attend the instruction at the College, subject to its discipline and regulations.

35th. That, the Superintendent shall draw a Pay-bill for the Establishment of the Institution, which shall be countersigned by the Secretary of the Education Committee, and shall annex to it a Nominal Roll of the Youths on the Foundation of and Establishments attached to the Native Medical Institution, and Voucher for the payment of the House Rent, both signed by the Secretary of the Education Committee.

His Lordship in Council is pleased to nominate Mr. Assistant Surgeon M. J. Bramley to the situation of Superintendent of the New Medical College.—Mr. Bramley's appointment to have effect from the 1st Proximo.—*India Journal of Medical Science.* March 1835.

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We have to tender our best thanks to the Editors of the following Periodicals for regularly exchanging with us :—

*The Indian Medical Gazette.*  
*The British Journal of Homœopathy* (H. Turner & Co., London).  
*The Monthly Homœopathic Review* (H. Turner & Co., London).  
*The United States Medical and Surgical Journal.*  
*The American Homœopathic Observer.*  
*The Western Homœopathic Observer.*

"*The Homœopathic Sun*." (We have not received this Journal for a long time past).

*The American Homœopathist.*  
*The American Journal of Homœopathic Materia Medica.*  
*The New England Medical Gazette.*  
*El Criterio Médico* (Madrid).  
*La Reforma Médica* (Madrid).  
*La Homœopatía* (Bogotá).  
 } (We have not received these for some time past.)

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*The Indo-European Correspondence.*  
*The Hindoo Patriot.*  
*The Bengalee.*  
*The Indian Mirror.*  
*The National Paper.*  
*The Bengal Times* (formerly *The Dacca News*).  
*Native Opinion* (Bombay).  
*The Englishman : Saturday Evening Journal.*  
*The Indian Daily News.*

*The Soma Prakāsa* (Bengali).  
*The Education Gazette* (Bengali).  
*The Prayig Duta* (Bengali).  
*The Abulā Bāndhava* (Bengali).  
*The Grāmvartā Prakāśikā* (Bengali).  
*The Nava Prabandha* (Bengali).  
*The Bāmbodhini Patricā* (Bengali).

*Rāmāyanam* : Devanagar Text with Bengali Translation (publishing in series).

We shall be glad to exchange with any Medical Periodical in the world.

Books, &c., for review, to be sent, carriage paid, to the Editor direct.

FEB. TO JUNE.

CALCUTTA JOURNAL OF MEDICINE. 1871.

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THE  
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VOL. IV.] July, 1871. [NO.

THE MATERIA MEDICA.

18.—BISMUTHUM. (SUB-NITRATE)

*Preparation and composition:* Upon the preparation depends the composition. Hahnemann is not precise in his directions for the preparation of the drug. The first sediment is the nitrate; but the subsequent sediment obtained by adding to the distilled water "a few drops of kali" (Potash), does not seem to be, and cannot be, as Hahnemann asserts,, (if it is only a few drops of kali), a pure oxyde of the metal. If the potash is not sufficient to saturate the nitric acid in the nitrate, then we must have a mixed oxyde and nitrate of bismuth. As it is now prepared, without alkalanizing the distilled water with potash, we have the nitrate, the trisnitrate or sub-nitrate as it is also called.

*Physiological Action:* Dr. Christison relates the following case of poisoning with the nitrate :—"A man subject to water-brash took two drachms of the trisnitrate with a little cream of tartar by mistake for a mixture of chalk and magnesia. He was immediately attacked with burning in the throat, brown vomiting, watery purging, cramps and coldness of the limbs, and intermitting pulse,—and then with inflammation of the throat,

difficult swallowing, dryness of the membrane of the nose, and constant nauseous metallic taste. On the third day he had hiccup, laborious breathing, and swelling of the hands and face; and suppression of urine was then discovered to have existed from the first. On the fourth day swelling and tension of the belly were added to the pre-existing symptoms, on the fifth day salivation, on the sixth delirium, on the seventh, swelling of the tongue and enormous enlargement of the belly; and on the ninth he expired. The urine continued suppressed till the eighth day. On inspection of the body it was found that from the back of the mouth to the rectum there were but few points of the alimentary canal free of disease. The tonsils, uvula, pharynx, and epiglottis were gangrenous, the larynx spotted black, the gullet livid, the stomach very red, with numerous purple pimples, the whole intestinal canal red, and here and there gangrenous, especially at the rectum. The inner surface of the heart was bright red. The kidneys and brain were healthy."

"*Orfila* found that the soluble part of fifteen grains of the nitrate, when injected into the jugular vein of a dog, caused immediate giddiness and staggering, and death in eight minutes. He also remarked, that forty grains mixed with water and introduced in the stomach, caused all the customary signs of irritation, and death in twenty-four hours; and that a great part of the villous coat of the stomach was reduced to a pulpy mass, and likewise exhibited several ulcers.

"Similar effects were produced by the trisnitrate; but a larger dose was required. Two drachms and a half killed a dog in twenty-four hours; and redness and eroded spots were found in the stomach."

*Old School uses*: "It has been principally employed in those chronic affections of the stomach which are unaccompanied by any organic disease, but which apparently depend on some disordered condition of the nerves of this viscus; and hence the efficacy of the remedy is referred to its supposed action on these parts. It has been particularly used and recommended to relieve gastrodynia and cramp of the stomach, to allay sickness and vomiting, and as a remedy for pyrosis or water-brash. In the latter disease I give it in the form of a powder, in doses of  $\mathfrak{ss}$ . three daily, in conjunction with hydrocyanic acid mixture, and

the patient rarely fails to obtain marked benefit from its use. Dr. Theophilus Thompson recommends it in doses of five grains, usually combined with three of gum arabic and two of magnesia, given every four or six hours, in the diarrhoea accompanying phthisis. He thinks that, both in efficacy and safety, it surpasses our most approved remedies for that complaint.

"It has also been administered in intermittent fever, and in spasmodic asthma. Hahnemann has recommended a portion to be introduced into a hollow tooth, to allay tooth-ache. I have used it, with advantage, in the form of ointment, applied to the septum nasi, in ulceration of this part, and as a local remedy in chronic skin diseases."—*Pereira*.

### Concordances.

*Moral and intellectual faculties.*—Alum. aur. bell. carb-an. ferr. graph. ignat. plat. zinc.

*Seat of the diseases.*—Acon. arn. ars. BELL. bry. calc. cham. chin. cocc. hell. ignat. lyc. merc. N-VOM. phosph. ph-ac. PULS. sec-corn. sep. spong. stann. sulph. veratr.

*Morbid states and sensations.*—Ars. BELL. bry. calc. caust. chin. colch. dulc. KALI. lyc. merc. natr-mur. n-vom. oleand. puls. rhus. sabin. sep. sil. stram. staph. sulph.

*Bones.*—Arg. cycl.

*Skin.*—arn. ars. bell. bry. calc. caps. caust. kali. lach. LED. lyc. merc. mezer. n-vom. op. phosph. plat. PULS. rhus. sep. sil. spong. staph. sulph.

*Sleep and dreams.*—Ant-crud. bry. CALC. cann. carb-an. carb-veg. chin. graph. hep. ignat. kali. lach. lyc. natr. n-vom. phosph. puls. rhus. sabad. SEP. sil. staph. SULPH.

*Pyrosis.*—Acon. arn. ars. bell. carb-veg. cham. cocc. hyosc. kali. lyc. merc. n-vom. op. phosph. sep. sil. stann. sulph.

*Time.*—Alum. ant-crud. bell. canth. ignat. lyc. selen. sil. staph. thuj.

*Exacerbations.*—Asaf. aur. CAPS. con. CYCL. dros. dulc. euphorb. ferr. mgs. magn-mur. MEN. mosch. ph-ac. plat. PULS. rhodod. rhus. sabad. samb. SEP. stront. tar. valer. verb. viol-tr.

*Concordances in general.*—Acon. arn. ars. BELL. bry. CALC. caps. carb-veg. caust. chin. cocc. con. cycl. dulc. ferr. ignat. KALI. lach. led. lyc. men. merc. n-vom. op. phosph. plat. PULS. RHUS. sabad. SEP. sil. stann. staph. SULPH.

*Antidotes.*—Calc. caps. (N-VOM.)

### Hahnemann's Preface.

Dissolve some of this easily fusible, brittle, reddish-white metal in nitric acid, until this is saturated; drop the solution, which is



clear as water, into about fifty or one hundred times its bulk of pure water, and stir it well; in a couple of hours a white sediment, the oxyde of Bismuth, will be discovered at the bottom of the vessel, which is freed from the superincumbent liquid by pouring this off with great caution; this being done, the same quantity of pure water, mixed with a few drops of Kali, is again added, and water and sediment are well stirred up together. In a few hours the sediment forms again, and is again freed from the liquid in the afore-mentioned manner. The remaining salt is spread on blotting-paper for the purpose of drying, to facilitate which, blotting-paper pressed down by weight, may be laid over the salt. This carefully dried oxyde is then trituated in the known fashion, and a very small portion of the  $\frac{1}{10000}$  part of a grain given at a dose.

In the following series of symptoms, some of the important uses of this drug in the treatment of disease are shown. Symptoms, Nos. 26, 43, and 46; show that the praises which Odier; Carminati, Bonnat and others, bestow upon the oxyde of Bismuth in certain forms of pain or pressure in the stomach, or the power which Odier ascribes to Bismuth in palpitation of the heart, are founded upon the homœopathic relation which the drug has to those diseases.

The homœopathic character of Bismuth in the treatment of those diseases, shows why the method of alloëopathic physicians, to give 1, 2, 6, or even 12 grains at a dose, four or five times a day, in those affections, should be condemned; from ignorance, they were in the habit of exposing the lives of their patients.

As I said above, and I say so from long and most careful observation, wherever Bismuth is homœopathically indicated, one single dose of a small portion of  $\frac{1}{10000}$  of a grain is sufficient to effect a cure.

#### *Pathogenetic Symptoms.*

##### *Mind:—*

Restless ill-humor: every thing is contrary to him; at times he seats himself, at times he lies down, at times he walks about, but he remains only a short while in the position he takes, on account of its becoming disagreeable to him.

Ill-humor the whole day; he was very still, and was unwilling to talk; more cheerful in the evening.

He is peevish, and dissatisfied with his condition ; he complains about it.

He alternately commences one thing, and then another, without finishing any.

Solitude is intolerable to him.

**Head :—**

Vertigo, sensation as if the brain were turning in a circle.

Vertigo : sensation as if the anterior half of the brain were turning in a circle, several times a day, for some minutes.

Obtusion of the head.

Heavy, oppressive, painful weight in the forehead, especially above the root of the nose, and in both temples, when sitting.

Pressure and sensation of weight in the forehead, more violent during motion.

Pressure and sensation of weight in the occiput, more violent during motion.

Hard pressure in both temples from within outwards, unaltered either by motion or contact.

Dull, pressive drawing in different parts of the head, more violent during motion.

Dull, pressive drawing in alternate parts of the head.

Dull, cutting pain in the brain, beginning above the right orbit, and extending as far as the occiput.

Boring pain from within outwards, at times in the right, at times in the left frontal eminence, at times in both at the same time.

Tearing pressure in the right temple, internally, but more externally, increased by pressing upon the part.

Darting, tearing pain in the whole of the occipital bone ; it is the most violent close to the parietal bone.

**Eyes :—**

Tearing pain in the forehead above the internal canthus of the right eye, and in the bottom of the orbit:

Pressure on the right eyeball from before backwards and from below upwards.

Gum in both canthi.

Mistiness before the eyes, with stupefaction.

**Face :—**

Livid complexion, blue border around the eyes ; the features are quite disfigured as if he had been very sick.

Pressure on the right zygoma, returning regularly at short intervals, unchanged by contact.

**Ears:—**

Drawing pressure in the external meatus of the left ear.

Tearing and pressure in the outer cartilage of the ear, disappearing when pressing upon the parts.

**Mouth:—**

White-coated tongue in the evening, without either heat or thirst.

Metallic, sweetish-sour taste on the back part of the tongue.

Great thirst for cold drinks in the evening, without any heat.

**Stomach:—**

Nausea at the stomach; he feels as though he would vomit; especially violent after a meal.

Pressure in the stomach, especially after a meal.

Violent eructations, of a fetid cadaverous smell.

Violent retching.

Vomiting, violent, horrid.

Vomiting of brownish substances.

Slight nausea, pressure at the stomach passing over into a burning pressure in the frontal region, vertigo with humming in the ears, redness of the conjunctiva, and quick, rather hard, small pulse.

Inclination to vomit and actual vomiting, with oppressive anxiety, small pulse, vertigo and prostration.

Repeated, easy vomiting of bile.

Easy vomiting of bile with empty eructations and nausea.

Vomiting and diarrhoea, with gagging and burning in the throat.

Violent, convulsive gagging and inexpressible pain in the stomach.

Oppression of the stomach which passes over into a burning.

Troublesome pressure and burning in the region of the stomach and afterwards emission of a quantity of flatulence from the stomach.

Pressure in the stomach, vertigo, headache, particularly in the frontal region, redness of the eyes, and dimness of sight, with small, contracted, rather hard, frequent pulse, elevated temperature of the body, white-coated tongue, loss of appetite, thirst.

Oppression of the stomach and colick pains, with emission of a quantity of wind from the stomach, loose bilious stool.

Inflammation of the stomach.

Pressure in the stomach, especially after a meal.

Burning in the stomach.

Cardialgia.

**Abdomen and Stool:—**

Loud grunting in the right side of the abdomen, when standing.

Grunting in the abdomen, without any sensation.

Painless rumbling in the abdomen.

Frequent emission of flatulence.

Uncomfortable feeling in the abdomen, with pressure in alternate places.

Pinching pain in the abdomen, in alternate places, with grunting and rumbling.

Pinching pressure in the abdomen, and rumbling, with tenesmus; sensation as if he would go to stool.

Tenesmus, in the evening, without any evacuation.

Evacuation of a cadaverous smell.

Diarrhoea, watery.

**Urinary Organs:—**

Frequent and copious micturition; the urine is watery.

Retention of urine.

**Genital Organs:—**

Aching of the right testicle, more violent when touching it.

Pollution at night, without any voluptuous dreams.

**Chest:—**

Fine stings in the middle of the sternum, unaltered either by inspiration or expiration.

Tearing around and by the side of the left nipple.

More or less violent aching in the right half of the chest, near the sternum, at a small spot, unchanged by inspiration or expiration.

Hard pressure near the left nipple, between the nipple and the sternum.

Clawing ache in the region of the diaphragm, transversely through the chest, when walking.

Fine, tearing stitches in the region of both nipples, apparently in the superior surface of the lungs, and the muscles of the

chest), sometimes increasing in violence during either inspiration or expiration.

Pinching stitches in the region of both nipples, unchanged by inspiration or expiration.)

Violent beating of the heart.

Dull lancinations and tearings in the region of the last ribs.

Intermittent stitches near the last false ribs, at their union with the dorsal vertebræ.

**Back and Neck:—**

Pain in the left side of the back when sitting, as if one had stooped too long.

Sharp pressure on the upper border of the right scapula and the clavicle.

Tensive pressure on the right side of the neck, near the cervical vertebræ, both when in motion and at rest.

Sensation of jactitation of the muscles in the right side of the neck.

**Superior Extremities:—**

Tearing and pressure in the right shoulder-joint.

The arms are bluish, low, weak and languid.

Contractive, spasmodic pain in the anterior muscles of the left upper arm, when the body is at rest.

(Spasmodically) contractive tearing in the muscles of the right arm.

Paralytic pressure on the fore-part of the right upper arm,

Hard pressure on the left fore-arm, more in the lower and outer part.

Paralytic tearing and pressure of the right fore-arm, towards the outer side, at times more in the upper, at times in the lower part; the pain went off during motion, and by contact.

Paralytic weakness and faintishness of the right arm.

Incisive tearing in the lower muscles of the right fore-arm.

Groaning pain in the bones of the left fore-arm, as if they were bruised,

Paralytic tearing and pressure in the right fore-arm, especially violent in the carpal bones.

Tearing in the right carpal bones, going off during motion.

Weak feeling in the hand, as if he were not able to hold the pen, and trembled.

July, 1871.]

*The Materia Medica.*

Intensely tearing pain around the styloid process of the radius as far as the muscles of the hand, most violent in the process itself.

Violently tearing pain in the left carpal bones.

Tearing pain in the metacarpal bones of the right index and middle finger.

Itching tearing and pressure of the styloid process of both ulnæ, inducing one to scratch.

Fine tearing in the posterior joints of the left fingers.

Pressure and tearing in the tips of the fourth and fifth finger of the right hand.

Fine tearing in the tips of the fingers of the right hand, especially under the nails.

Intermittent, fine tearing in the ball of the right thumb.

**Inferior Extremities:—**

Intermittent, hard pressure over the left knee-joint, in the lower part of the thigh, on the outer side, left unaltered by motion or contact.

Drawing, from the middle of the calf and the anterior side of the left leg down to the foot.

Corrosive itching near the tibiæ and in the dorsa of both feet, near the joint, becoming more violent by scratching; he has to scratch himself until he bleeds.

Drawing, near the external malleolus of the right foot, going off by motion.

Tearing pain below the external malleolus of the right foot, every paroxysm terminating at the tendo-achillis.

Pressure and tearing between the two last metatarsal bones of the left foot, close to the toes, while sitting.

Fine tearing in the left heel.

Tearing pain in the right heel, near and in the tendo-achillis.

Pressure and tearing in the tip of the big toe of the right foot.

herea Fine tearing in the posterior joints of the left toes.

**Weakness and Sleep:—**

given faintishness and depression of strength.

form a nervous working, an excessive drowsiness assails him—he reads

and describes working, an excessive drowsiness assails him—he reads  
We are sleeping, knowing what; he had to lie down, and fell asleep  
from quarters, having vivid and confused dreams, in the

ground of the

tion has emanated

those very young

Excessive drowsiness, a few hours after rising; but he was unable to take his usual siesta from want of sleep, for several days.

Violent startings in the evening, when slumbering, as if he fell down.

Frequent waking, at night, from his sleep, as if started by fright.

Vivid, anxious dreams at night.

Night-sleep disturbed by lascivious dreams, frequently accompanied by pollutions, sometimes without any.

At night he lies on his back.

Frequent waking, at night, with lassitude.

**Fever:—**

Flushes of heat over the whole body, especially on the head and chest, without any chilliness either before or after; early in the morning, shortly after rising.

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## THE EARLIEST MARRIAGEABLE AGE.

IN private conversation and public discourse young Bengal has assiduously in showing off his enlightenment by lamenting over the evils which teem in his unfortunate country. Of these evils that which has furnished material for the loudest talk is early marriage. As usual with young Bengal, we have had hitherto talk and nothing more. The monster custom, which has enervated our race so that, from having been one of the strongest, we are now the weakest in the world, has defied mere talk. Young Bengal, no doubt because of his half-heartedness, has failed in making any impression upon it, and would seem to have dropped the subject in despair.

Under these circumstances we cannot but be thankful to Babu Keshub Chunder Sen for reviving the subject and attempting to deal with it with his characteristic energy. The way in which he has proceeded with it strikes us as the very best, because it is the most prudent, we had almost said, truly scientific way. The question, strictly speaking, is not primarily religious but physiological. Its religious bearings must be determined by the verdict of physiology. This Babu Keshub Chunder Sen has well understood, and accordingly the first thing he has done has been to address a circular letter to several medical gentlemen of Calcutta, requesting them to give their opinion on the conditions and development of puberty as observed in native females, and on the earliest marriageable age consistent with the well-being of mother and child and society. We publish under our *Gleanings* the circular letter along with the replies thereto of the medical gentlemen addressed, and we would express our opinion, that whatever might be the out-come of the agitation, there cannot be the slightest doubt that it will hereafter be looked upon as the first practical turn which was given to this most important subject. The opinions themselves form a most valuable contribution to the literature of the subject and deserve a permanent record.

We are sorry to find that the agitation has met with opposition from quarters from which at least we did not expect it. The only ground of the opposition that we can discover is that the agitation has emanated from Babu Keshub Chunder Sen. Some of those very young men, who were hitherto loud, nay, boisterous in



decrying the evil of early marriage, are now found in the ranks of the opposition laughing at and ridiculing the very inquiry itself. We do not here allude to the opposition by the so-called A'di Bráhmās to the Bráhma Marriage Bill as prayed for by the so-called progressive Bráhmās. We allude to the silent and therefore more effective scoffing of neutral parties, who pretend to be more educated and enlightened than any of their countrymen. We medical men have nothing to do with sects and sectarianism. We gave our opinion on this momentous subject on true physiological grounds, irrespective of the manner in which they were likely to be received by particular sects or individuals. And it is really irritating to see that such a broad question, affecting the weal and the welfare of the whole Hindu race, should have been viewed by any from any other than the most philanthropic standpoint.

It is beyond our province to say whether legislative interference in such social matters is likely to be beneficial or not. We for ourselves hate coercive legislation. And we would leave such questions to be decided by the good sense of the community. All that we want is that the pernicious restraint, which is being exercised by a monstrous custom and a falsely-interpreted religion, be removed.

The advantages of early marriage as urged by its advocates are :—

1. That the marriage being accomplished before puberty is established, all possibility of sexual immorality is prevented ; and
2. Facility being offered by it to sexual intercourse just when it ought to begin, that is, with the commencement of puberty, the intention of nature in the union of the sexes, namely, reproduction, is fulfilled, so that there would be no possibility of loss to the world from failure of a single birth.

These views seem to have derived no inconsiderable strength from the dicta of some crack-brained Rishis. Thus Vashist'ha says—

पितुर्मेहे च वा कन्या रजः पश्यत्वपंश्रुता ।

भूयश्छा पितृसखाः वा कन्या वृषणी कृता ॥

The father commits the sin of foeticide, if his daughter, while yet unmarried, menstruates in his house. Such a virgin is called a vrisahā (a term of

And Pait'hinashi goes so far as to declare that,

यानक्षोद्भिद्योतेक्षणी तावदेव देवा । अथ नृपुत्रमती भवति दाता प्रतिपक्षीता  
च नरकमाप्नोति पित्रपितामहप्रपितामहाश्च विद्यानां जायन्ते । तस्माच्चमिका  
दातव्या ॥ २३ ॥

Before her breasts appear, a girl should be given in marriage. Both he who gives in marriage, and he who receives, a damsel after the appearance of her menses, sink to hell ; and the father, grandfather, and great-grandfather of each are again born in ordure. Therefore should a girl be married at an age when she can go about naked.

The objections urged, therefore, by the advocates of early marriage against the abolition of the custom, are 1, that it will tend to increase sexual immorality, and 2, cause a negative loss to the world in the shape of failure of birth. Hence parents that neglect to marry their children before puberty are considered to be liable to the sin of murder of unborn human beings that might otherwise have been born !

The first objection must be acknowledged to have some force. The intercourse of the sexes is a physiological necessity, and it may be said that if delayed too long after the attainment of puberty, it may become a fertile source of sexual immorality. Our own statistics, it may be urged, point to twelve as the average age at which the menstruation and therefore puberty commences in this country, and therefore it may be argued, the age of marriage should not be fixed higher than this. To this we reply, that it is not early marriage by itself that we regret so much as early pubescence. Our object is, as indeed it should be that of all true philanthropists, to endeavour to prevent the development of early pubescence, which leads to such lamentable deterioration of race. And as we have shown, we believe, conclusively, that early pubescence is the result of early marriage. We contend that by striking at the root of the latter we can succeed in preventing the development of the former. So that the dread of the increase of sexual immorality consequent upon the abolition of early marriage, is altogether groundless.

This dread is groundless for other reasons. The development of the sexual instinct, in the human subject, is not immediately consequent upon the development of the physical signs of puberty.

That development is, to a great extent, dependent upon moral training or education, and may be delayed or hastened for a considerable time after or before the menstrual function declares itself. We have seen children, who have been born and bred in scenes of sexual immorality, manifest the instinct at an age long anterior to the first menstruation, and we have seen grown up females, who have been born of parents jealous of their children's morals, remain unconscious of it long after the attainment of physical puberty. So that the objection to the abolition of child-marriages, if earnestly made, would look very little creditable to our social and domestic economy—would in fact show the rotten state of the moral foundation of our society. And this very fact would point to the imperative necessity of the radical reform for which we are contending. Early marriages have led to precocious offsprings, and this state of things must be done away with at once and without hesitation. And in fact, parents ought to be ashamed of themselves if they prove unequal to the task of watching over the morals of their children. Unless they can do that, they are unworthy the name of parents, and should not have made themselves so—an argument in itself powerful in favor of the measure now being discussed.

The second objection is merely sentimental, if not altogether puerile, and would seem to have been based, if at all, upon a mere superficial knowledge of physiology. A deeper acquaintance with it will succeed in removing it altogether. It is true that at each menstrual period there is chance of conception, but it is equally true, as was pointed out so early as in the days of Susruta, that the product of conception at an age, when the mother herself has not attained her full development, is not likely to be a normal human being. The object of Nature, in the union of the sexes, is no doubt the production of offspring for the perpetuation of the species. But in order that the species may be truly perpetuated, it is necessary that the offspring should be healthy. And whatever therefore interferes with the production of healthy offspring must be looked upon as frustrating the intention of Nature, and therefore cannot be regarded as the dictate of sound religion. On the contrary, in our humble opinion, it should be condemned not only as unscientific, but because of that, as irreligious likewise.

The only other objection that can be entertained is that the contemplated abolition of early marriage being against a time-honored custom, ingrained in the mind of the Hindu community as having all the authority of religion, however false the connection between them may now be shown to be, will be attended with serious social inconveniences, which it will not be possible even for enlightened and educated men to endure. It is not possible to effect a sudden change in the fabric and organization of any society, far less in Hindu society. We admit the force of the objection, and we are therefore afraid of the consequences of legislative interference, should the legislature consent to interfere. But we do not see any ground of its not interfering when the interference is for a particular section of the community and prayed for by that section.

We would deem it a misfortune to the country, if the agitation inaugurated by Babu Keshub Chunder Sen be allowed to subside without its producing the desired effect upon the mind of the community, if the note of warning unanimously given by some of the leading medical gentlemen of Calcutta be unheeded. We know the disastrous effect the custom has produced in the shape of deterioration of race, and it will be culpable perversity on our part, if informed of the remedy we fail to apply it, through prejudice or pride. The generations that are being born under the present system of things in the eye of modern science, and even of our own ancient Ayurveda, are no better than abortions and premature births. What can be expected of such human beings, ushered into the world under such unfavorable circumstances? How can they be expected to compete in the hard struggle for existence, not to say, for intellectual and moral superiority? Why talk any longer of education? What can education do with such subjects? Education is merely a directing power. But the energies and the forces must already exist in order that the directing power may succeed in leading them to healthy results.

Our orthodox community, if they are consistent, ought to yield and adopt the contemplated reform. They ought no longer to rest on doubtful and suspicious texts, when the verdict of common sense and physiology is backed by such high authorities as Manu and Dhanwantari. In religious matters the authority

of Manu is unanimously acknowledged to be above all. Why then should Vashist'ha and Pat'linasi have the preference? If our orthodox community really have at heart the extinction of the Hindu race, they could not have invented a surer way of accomplishing their object than what they have done in following the custom of child-marriages. But if they wish that the once glorious Hindu race should re-assert its place in the family of nations, should contribute to the progress and well-being of the whole human race, then they ought to see by the light of science that the custom of early marriage is suicidal in the extreme. We therefore appeal to the patriotism and the philanthropy of our orthodox community. We appeal to their veneration for their *sastras*. And we hope that they have not become dead to all the high and holy instincts of human nature. We hope they may yet shake off the shackles of prejudice and superstition which have been lying heavy upon them and preventing them from lifting up their heads in the atmosphere of intellect and morals.

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## CLINICAL RECORD.

*A case of Traumatic Tetanus; Recovery.*

UNDER CARE OF DR. M. L. SIRCAR.

RADHA Nath, Hindu, aged 40, carpenter by profession, presented himself for treatment on the 8th March, 1871, with symptoms of tetanus. He had the peculiar tetanic look, chiefly characterized by half-closed eyes and stiffness of the neck. There was partial lock-jaw, and rigidity and pain in the muscles of the back and the spine. He complained of not being able to masticate properly and of being unable to speak with usual force and distinctness. He had a wound at the tip of the third right toe. This was caused by the wheel of a carriage running over the toe and cutting off the toe at the middle of the first phalanx. This had taken place 15 days before admission. The tetanic symptoms were first observed 9 days after the accident.

The soft parts of the toe were in a state of gangrene. We prescribed *Lach.* 30.

On the 10th the patient reported some increase of the tetanic symptoms, and extension of the rigidity to muscles of the abdomen. The progress of the case was, however, not unsatisfactory. The medicine in the same dilution was therefore continued.

On the 16th the patient was worse than he was on the 10th, but still not so bad as such cases generally become. We therefore changed the dilution to the 6th. From this time forth improvement commenced in the wounded part as well as in the tetanic symptoms.

The sphacelus separated on the 24th and the patient was doing very well. The tetanic symptoms had considerably abated.

The same medicine in the same dilution was continued till his final recovery by the end of April following.

*Remarks.*

This was not a severe case from the beginning. But there cannot be the slightest doubt that *Lachesis* exerted a considerable influence over the disease, arresting its progress and ultimately extinguishing it altogether. This is evident from the fact that the 30th dil. was not so efficacious as the 6th, which brought the case to a successful termination. What induced us to select the drug in preference to others was the traumatic origin of the disease and the gangrenous nature of the wound. It is a routine practice to try *arnica* first, but we have never derived any benefit from it, no doubt for the obvious reason, that *arnica* can never be homœopathic to tetanus.

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**Excerpts from Contemporary Literature.****MARRIAGEABLE AGE OF NATIVE GIRLS.**

To

Dr. Norman Chevers, M. D.  
 Dr. J. Fayer, M. D., C. S. I.  
 Dr. J. Ewart, M. D.  
 Dr. S. G. Chuckerbutty, M. D.  
 Dr. D. B. Smith, M. D.  
 Dr. T. E. Charles, M. D.  
 Dr. Chunder Coomar Dey, M. D.  
 Dr. Mahendra Lal Sircar, M. D.  
 Tumeez Khan, Khan Bahadoor.

INDIAN REFORM ASSOCIATION,  
 1st April, 1871.

GENTLEMEN,

I have the honor to solicit the favor of your opinions on a subject of great importance to the Native community in India. There is no doubt that the custom of premature marriage, as it prevails in this country, is injurious to the moral, social and physical interests of the people, and is one of the main obstacles in the way of their advancement. Owing to the spread of education and enlightened ideas the evils arising from this institution are beginning to be perceived, and there is a growing desire to remedy them. Those, however, who are alive to the importance of this reform, feel great difficulty in determining the marriageable age of Native girls. It seems necessary, therefore, that competent medical authorities should be consulted in the matter, and their judgment made known for the guidance of the Native community. I beg therefore respectfully to request, you will be pleased, after a careful consideration of the facts that have come to your knowledge, and of the climatic and other influences which govern the physical development of women in tropical countries, to state what you consider to be the age of puberty of Native girls and their minimum marriageable age.

Trusting you will kindly forgive the liberty I have taken in thus addressing you.

I have the honor to be,  
 GENTLEMEN,  
 Your most Obedient Servant,  
 KESHUB CHUNDER SEN.

[FROM DR. S. G. CHUCKERBUTTY.]

14, Chowringhee Road, 1st April, 1871.

In reply to your letter of this date, I beg to say that the usual sign of puberty in a girl is the commencement of menstruation which occurs as a general rule in all countries between the ages of thirteen and fourteen though in some cases it may come on earlier or later. The best standard for comparison will be the Native Christian girls on the one hand and European girls on the other, for in respect of marriage they adopt the same rule. I am not aware that there is any practical difference between

these two classes of girls as to the age of puberty. The Hindu and Mahomedan girls, from the custom of early marriage, attain to *forced* puberty at an earlier age. This should therefore never influence our opinion as to what is the proper age for puberty under normal circumstances.

But although menstruation may occur at 14 and fruitful marriages may take place at that age, the minimum age according to English law for marriage is 16 with the consent of parents, and a girl is not ordinarily supposed to be capable of being independent till she is 21 years old.

There are various reasons for this practice, the principal object of which is to give a girl sufficient time for education, moral training, and ripe judgment.

In the case of Native Christian girls the same practice is observed with benefit, and I fail to see why any other practice should be adopted in the case of other classes of Native girls. It is a vicious motive that as soon as a girl menstruates she must be married. It is not done in any civilized country, nor should it be done here. The practice of abstinence which the deferment of marriage imposes on a girl is more beneficial to mankind than its reverse, *i. e.*, early marriage.

S. G. CHUCKERBUTTY, M. D.

[FROM DR. FAYRER.]

3rd april, 1871.

I have the honor to acknowledge the receipt of your letter dated 1st April, 1871, and in reply to say, that I have much pleasure in giving you my opinion on the important subject concerning which you seek information.

I consider that the minimum age at which Native girls should be married is 16 years, and I believe it would be well, as a general rule, that marriage should be deferred to a later period, say to 18 or 20 years of age.

The fact of a girl having attained the period of puberty does not by any means imply that, though *capable*, she is *fit* for marriage. Physiological science, common sense and observation all teach that an immature mother is likely to produce weak and imperfect offspring. Before the parent gives birth to a child she should herself have attained her full growth and a much more complete development and vigour than can be looked for in female children of 10 to 14 years of age. I am told that in Bengal marriages do frequently take place at these very early periods of life.

I am speaking of the subject now only in its physical aspect; of the other disadvantages, moral, social and domestic, I need say nothing.

They are so obvious that they must forcibly present themselves to the notice of all the highly educated, thoughtful and intellectual natives of Bengal, among whom, it is to me a marvel that such a pernicious practice could have so long been permitted to obtain.

You have my most cordial sympathy in a movement which if carried out, will do more physically to regenerate and morally to advance your countrymen and women than almost any other that your zeal for their improvement could promote.

J. FAYRER, M. D.



[FROM DR. J. EWART.]

5th April, 1871.

I AM of opinion that the minimum age to which Hindu women should be encouraged to marry, would be after and not before the sixteenth year. But the race would be improved still more by postponing the marriage of women till the eighteenth or nineteenth year of age.

JOSEPH EWART.

[FROM DR. CHUNDER COOMAR DEY.]

152 Amherst Street, 6th April, 1871.

In the absence of all statistics, it is hard to say precisely when our girls arrive at puberty, but my impression is that they generally do so between 11½ and 13 years.

Their minimum marriageable age is I believe, 14 years.

CHUNDER COOMAR DEY.

[FROM DR. CHEVERS.]

*Medical College, 8th April, 1871.*

THE question conveyed in your circular of the 1st instant regarding the age of puberty of native girls, and their minimum marriageable age, is certainly one of great practical importance, and you will see that I have thus regarded it in my work on Medical Jurisprudence in India. The general opinion among Physiologists is that, all collateral circumstances except those of climate being equal, all women would reach puberty at about the same age. If, however, there does prevail in India an idea that a crime equal to that of child-murder is incurred whenever menstruation occurs previous to marriage, it becomes difficult to obtain statistics showing the range of ages at which *naturally* Indian women would attain puberty. It would perhaps, be well to obtain some statistics of the ages at which puberty was reached by some hundreds of carefully brought up widows of *child*-husbands.

This has never been attempted, I believe, and such a table would be valuable to science and of valid aid to the excellent purpose which you have in view. The Mahomedan law has frequent allusions to the principle that puberty sanctions marriage, and, doubtless, Bengal would make a great step in advance, if parents would admit and act upon the rule that marriage allowed before the establishment of puberty, even should that change be delayed until the 17th or 18th year, is contrary to the law of nature. Still this is not enough. It stands to reason that a wife ought to be a person whom the least observant would declare to be a "woman" and not an immature "child." Therefore, if safe child-bearing and healthy offspring are to be regarded as being among the first objects of marriage, this rite ought seldom to be allowed before the 18th year, the 16th year being the minimum age in exceptional cases. I shall be happy to communicate with you further on this subject, especially should you be able to obtain the statistics which I have suggested.

NORMAN CHEVERS.

[FROM DR. D. B. SMITH.]

I was much obliged to you for your note of the 15th and for the 4 copies of the printed Circular which you were good enough to send me.

With regard to the subject of "Too early marriage," I believe it to be one of great importance socially and politically. Unfortunately it is almost as difficult as it is important, inasmuch as its consideration brings us face to face with deep problems in physiology and political economy.

It is no easy matter to get at the *facts* upon which arguments should alone hinge in such a matter.

Thousands will no doubt confidently assert that the practice is pernicious to the last degree, whose judgment is based on mere hearsay, and who have never taken the trouble to go into the enquiry carefully. I am afraid that trust-worthy scientific observations and statistics as to the exact age of puberty are very scanty in India. Again the minimum marriageable age is not easy of determination.

How is it to be decided? I am myself inclined to think that it should (as far as physiology is concerned) somewhat closely correspond with the complete development and solidification of the bony skeleton. The exact period at which this occurs in India requires careful enquiry. Few men (so far as I know) have paid special scientific attention to it, and yet such opinions only are of any real value.

The early betrothal system and the bringing together of persons of immature age must be bad, as involving a disturbance of imperceptibly gradual sexual development and as lighting up, what in medical physiology might be called, an unnatural 'Erythism.' I should be glad indeed to be familiar with and to understand all the exact social and religious grounds upon which the practice has been adopted and followed in India, and to read the arguments by which they can best be met.

It appears to me that any attack made against an institution might possibly do more harm than good, unless it is very well thought out, determined and overpowering, and unless it rests upon masses of incontrovertible facts and investigations of a precise scientific character.

With these, I dare say, some good might be done, particularly if a number of leading and thinking men would bring forward some arguments.

The great difficulty appears to me to collect facts of real value. I confess that at present I am personally not in possession of many such facts.

But the subject is one which interests me greatly, and I shall be only too glad if in any way it lies in my power to further the objects of the Circular, or to assist you in the rectification of what is, I believe, one of the physical and social evils which tend to sap the vigor of Indian communities.

I shall be very glad if you will keep me acquainted with any thing that is being done in this matter.

D. B. SMITH.

[FROM DR. T. E. CHARLES.]

*Calcutta, 4th May, 1871.*

The question asked about the precise age at which girls arrive at puberty in Bengal is one which it is not possible to answer by fixing any given date as that at which puberty commences. Neither in this nor in any other country can puberty be said to arrive at a given date, as whatever date is taken, though it may truly represent an age at which many girls menstruate, must necessarily fail to include the cases of those who menstruate a year earlier or later, and constitute a class so numerous as perhaps to include as large a number as the one to whom the date chosen is applicable.

*Sushruta* fixes the date of menstruation in India at "after the 12th year." The enquiries of Baboo Modusudnn Guopto led him to believe that

menstruation usually began after the 12th year, or at the beginning of the 13th year. I regret that I have not collected any statistics on the subject, and can only record my impression from all I have seen that both of the above authorities have fixed the date a few months earlier than I would feel inclined to do. If I were forced to name any single date, I would state that the *end of the 13th year* would more correctly represent the state of the case as now met with in Calcutta. I would have it clearly understood however that such is only an impression, and does not deserve that implicit confidence should be placed on it. I have heard of very numerous instances of menstruation occurring during the twelfth year, and many during the eleventh. Before this date menstruation is not rare, but still deserves to be regarded as exceptional, much in the same light, in fact, as similar cases are looked on in colder climates. I have heard of many girls not menstruating till long after the completion of the thirteenth year. Instances delayed till the completion of the fifteenth year are of such frequent occurrence that I never regard them as exceptional. Instances of menstruation delayed till the 16th, 17th, and 18th year are met with. Goodeve tabulated six such cases out of ninety instances, and a seventh which had not begun to menstruate at 20.

I would beg to be allowed strongly to insist on the fact, that the beginning of menstruation should not be taken to represent the marriageable age. It is true that talking generally, this may be said to be sign that a girl has arrived at the age at which she may conceive. It is an undoubted fact, however, that out of many girls living in the married state at the time that menstruation begins, very few do conceive for many months or even years after that function has become established. I believe that though this event may be taken to represent *commencing* puberty, a girl ought not to be taken as having arrived at puberty till various changes in her organization, which take place gradually and occupy a considerable period, have been fully completed. I have no data on which to determine how long these changes occupy, and therefore cannot assign any date after the first menstruation, as the one at which puberty should be considered as completed.

It is also of great importance that the fact should be kept prominently in view, that there is a broad distinction between the age at which it is possible for a child to conceive and that at which it is prudent in a medical point of view that she should be allowed to become a mother. I have seen many mothers in India of fourteen, instances of early maternity are not rare; but when I meet with a mother under fourteen, I look upon her as an exception, though Baboo Modusudun Goopto has tabulated five such cases out of thirty seven women among whom he made enquiry. Though I have seen so many mothers at fourteen as to look on the occurrence of maternity at that age as the rule rather than the exception, I uniformly regard such instances of early child-bearing as a misfortune. I am fully convinced that the evils attendant on child-bearing at such an early period are much greater than when the bodily frame of the mother has arrived at more perfect maturity, and consider that every endeavour should be made to prevent children becoming mothers at fourteen. Constitutions shattered by early child-bearing cannot be made to appeal so strongly to the intellect of others who have not been witnesses of the extensive mischief caused, as figures calculated on a death rate. I should think it possible that by examining the death rate of young mothers, some very valuable statistical data could be secured. Till some such exact information becomes available, I may quote the fact that in France "twice as many wives under twenty die in the year, as die out of the same number of the unmarried," and state my belief that probably the injurious effect of early child-bearing would be more apparent from Indian statistics. To fix a minimum marriageable age is so purely an arbitrary proceeding, that I prefer to adopt the age of 14 years, as proposed in the Bill, and making

a few remarks on it, to attempting to assume another as a more fit limit. In a medical point of view alone the limit of 14 years, though probably sufficiently low if only a few were expected to take advantage of it, I consider to be much too low when it is believed that the great majority of those about to marry will avail themselves of the earliest lawful opportunity of doing so. It would be improper to style a girl of fourteen as a child, but we would be equally far wrong in regarding her as a woman. She is in a transition stage, and while she is only developing into a womanhood, she is in a position as regards child-bearing which is very far from perfect. The practical effect of this limit will be to ensure that the young mothers will just be removed from the period of childhood, which I consider to be a very great desideratum, but it will not place them within the safe period of adult age. At present I believe the majority of the women become mothers while they may be said to be children, and the proposed change will just bring them into that age in which they may with propriety be regarded as adolescent. Child-bearing in the early stages of adolescence, I regard only as little less injurious than during childhood; and any regulation which would ensure that most young mothers would have completed their fifteenth year is one calculated to do a great amount of good though stopping very far short of what might be done. I am distinctly of opinion that a resolute stand should be made for the full age at present proposed, and would regard the relaxation of even a month or two as positive loss. Taking into consideration the present state of Native feeling on the subject, I have refrained from dwelling at length on the injurious effects of women bearing children even during adolescence. When the present step has been attended with success, and the mind of the community has been accustomed to the change, it will then be time to try and effect further improvement. I do not know whether it would be just to expect the law to give assistance in the matter to a much further extent, but the leaders of thought and those whose influence extends to guiding social customs should from the beginning strive to give the fullest prevalence to the idea that though the law sanctions the age of fourteen as the minimum age for marriage, medical considerations unite with all others in deprecating such early unions. If the object be steadily kept in view and frequently dwelt on, a most important change will undoubtedly be effected on public opinion, and when implication in such an early marriage comes to be regarded as a breach of good breeding, as it undoubtedly is among Western nations, the gain to the nation will be immense. Even among Orthodox Hindoo families, I am told that various causes have led to a postponement of the very early age at which marriages used to take place. I am told that half a century ago, a strong feeling existed that marriage should take place at the age of eight, while about fifteen years ago, the age of eleven was deemed sufficiently young. Of late years a gradual improvement seems noticeable, as large numbers of girls do not marry till they are 12, and marriages delayed till 13 are by no means very rare. Even should the religious belief of the Hindoo render it obligatory on him to give his daughter in marriage before menstruation begins, as far as I know there is no obligation which necessitates his allowing his daughter to remain with her husband till she has arrived at such an age that child-bearing will not prove exceptionally injurious to her system. I cannot shut my eyes to many difficulties which are in the way of even slow progress, but most of them can, I conceive, be got over, and as they do not depend on any medical question, I do not enter into this view of the subject. Two points, however, constituting grave and formidable impediment have come prominently before me while making enquiries to enable me to offer an opinion on the question. One lies in a wide-spread belief that the climate leads to early menstruation, which points to early marriage, and the other

a similarly extended opinion that the climate causes an early development of sexual passion. There is just sufficient truth in both these statements to render it impossible to give them a full and unreserved denial, and yet so little truth in them as to render the arguments based on them entirely valueless. Menstruation in Calcutta is undoubtedly earlier than it is in London, though the difference in this respect between the two places is not so great as is usually believed. The climate and other surroundings of young girls may have some influence in leading to this result, but the great cause which induces early menstruation is undoubtedly early marriage. The girl is forced into menstruating prematurely by the abnormal conditions under which marriage places her.

Horse breeders are well aware of this physiological law, and owners of racing studs habitually take advantage of this natural law when it suits their purpose by confining an entire pony under the same roof, though separated from the mare by partition, when they desire that her ovaries should be forced prematurely into that condition which is analogous to the state they are in during menstruation in the human species.

I believe, in the young widow and in the girl kept separate from her husband, menstruation occurs uniformly later than in those living in a state of marriage. I am also of opinion that the universality of early marriage has had a decided effect in determining the earlier appearance of menstruation, as it is well known that instances of early and late menstruation show themselves regularly in special families and the age at which menstruation occurs may be regarded as in a great measure hereditary. A very large number of the instances of menstruation met with before the thirteenth year, is capable of very easy explanation on the supposition of early marriage having caused their premature appearance. If marriage became generally delayed till menstruation had been fully established, I am quite sure that after a series of generations, menstruation would come on habitually at a later and later period and much more closely approach to a Western standard.

On the subject of the early development of sexual passion I write with great reluctance, and only write at all because I consider by not referring to the question, it will do more harm than by allowing it to enter into this discussion.

I have long believed that the young Hindoo female is usually totally devoid of all sexual feeling, and special enquires on the point made during the present investigation have completely confirmed me in this opinion. Believing the allegation to be without foundation, I consider the fear of seduction grounded on it to be needless, and am convinced that such a misfortune befalling on any Bengalee girl of fourteen or fifteen years of age would depend on a train of events in which sexual passion would hold as unimportant a place as it would do under similar circumstances in Spitzbergen or the Northern shore of Baffin's Bay.

T. EDMONDSTON CHARLES.

[FROM DR. M. L. SIRCAR.]

I have the honor to acknowledge receipt of your circular letter dated the 1st April, 1871, and I have to apologize for the delay in replying to it.

The subject mooted in your letter has been to me, for a long time past and especially since I have taken to the profession to which I have the honor to belong,—and as I believe it cannot but be to those of my countrymen who look upon life beyond the mere surface of its pleasures and woes,

who have acquainted themselves with the laws of its genesis, development, maturity and decline,—one of the deepest concern and anxiety. And I must express to you my heart-felt thanks, as all true well-wishers of our country ought, for the initiative you have taken in the matter.

Early marriage, in my humble opinion, is the greatest evil of our country. It has stood, so to say, at the very springs of the life of the nation, and prevented the normal expanse of which it is capable. And I am inclined to date the fall and degeneracy of my country from the day Angirā uttered the fatal words, and those words became law, or custom, which is stronger and more mischievous than law itself :—

अष्टवर्षा भवेद्गौरी नववर्षा तु रोहिणी ।

दशमे कन्यका प्रोक्ता अत ऊर्ध्वं रजसखा ॥

तस्मात् संवत्सरे प्राप्ते दशमेकन्यका युधेः ।

--

प्रदातव्या प्रयत्नेन न दोषः कालदोषतः ॥

The girl of eight years is Gauri (i. e., of the same elevated character and purity as Gauri or Pārvati, the goddess Durga) ; of nine, Rohini (one of the wives of the moon) ; of ten (a simple) virgin ; of above that age, a woman who has menstruated. Hence the learned should give their daughters in marriage whenever they attain the age of ten, and they will not be liable to the fault of not marrying their daughters in due time.

I do not know how such an absurd opinion came to be tolerated and received as the rule of marriage. I believe it was the natural off-shoot of the morbid jealousy which was slowly taking possession of the Hindu mind and of which the final expression we have now in our own time. I hope the day has dawned for better things.

Manu would seem to fix the earliest marriageable age of girls at twelve or eight :—

त्रिंशद्वर्षे वहेत् कन्यां चतुर्धा द्वादशवर्षिकीम् ।

तृप्तवर्षोऽष्टवर्षाभ्या धर्मो वीदति सत्वरः ॥

A man aged thirty years may marry a girl of twelve, (if he find one) dear to his heart ; a man of twenty-four years, a damsel of eight. If he marries earlier (than twenty-four) he loses virtue.

We ought to remember that by this text Manu simply limits the minimum marriageable age of the male and the female. He does by no means prohibit later marriages. On the contrary, he strictly prohibits the marriage of a man of thirty with a girl of less than twelve, and so on. He does not say a man of thirty may not marry a girl of a higher age than twelve. All that he says is that the youngest girl that a man of thirty can marry is one of twelve years. This is evident from his laying down, in the same text, that a man of twenty-four may marry a girl of eight. The spirit of this text would be better understood if we take it along with another in which he says :—

काममाभरणास्तिष्ठेद् दृष्टेकन्यर्त्तमत्स्यपि ।

नचैवैनां प्रयत्नेषु युवहीनाय कर्हिचित् ॥

The girl, though menstruant, should rather stay at (her father's) home till her death, than be given away in marriage to one, devoid of all excellent qualities.

We have not, it seems, any means of ascertaining what was the earliest marriageable age in the Vedic times, at least I have not had opportunities of satisfying myself on the subject. I therefore naturally turned to our ancient medical writings to see if the Hindu medical philosophers of old also sanctioned the unphysiological custom of early marriage. This search has cost me some time, and this is the reason, Sir, of the delay in replying to your letter. As far as I have been able to ascertain, we have no mention of the age of first menstruation nor of the earliest marriageable age in Charaka Saṁhitā, perhaps the oldest work extant of Hindu medicine. But in Susruta, a work of equal celebrity and almost equal antiquity, we have distinct mention of the age when menstruation usually commences and of the age when it ceases.

तद्वर्षाद्वादशादूर्ध्वं याति पञ्चायतः क्षयम् ॥

And more, we are told the age before which the female ought not to conceive :—

तस्मादत्यन्तवासायां मर्माधानं न कारयेत् ॥

As in the discussion of this subject, the question of the age of first menstruation naturally comes to mind, and as it is commonly believed that this is the age which nature has indicated as the time when the opposite sexes should be united in holy marriage, I have been at some pains in collecting statistics on the subject. The inquiry is attended with great difficulty, which you, Sir, as a Hindu, can easily understand. However, as my informants are all educated men and felt interested in the inquiry, on their testimony I can vouch for the accuracy of the facts which I have collected and which I now submit to you.

| No. | y  | m  | No. | y  | m  | No.  | y  | m  | No.  | y  | m  |
|-----|----|----|-----|----|----|------|----|----|------|----|----|
| 1.  | 8  | 9  | 36. | 11 | 3  | 71.  | 12 | 1  | 106. | 13 | 0  |
| 2.  | 8  | 10 | 37. | 11 | 3  | 72.  | 12 | 11 | 107. | 13 | 0  |
| 3.  | 9  | 0  | 38. | 11 | 3  | 73.  | 12 | 2  | 108. | 13 | 0  |
| 4.  | 9  | 0  | 39. | 11 | 3  | 74.  | 12 | 2  | 109. | 13 | 0  |
| 5.  | 9  | 2  | 40. | 11 | 3  | 75.  | 12 | 2  | 110. | 13 | 1  |
| 6.  | 9  | 5  | 41. | 11 | 3  | 76.  | 12 | 3  | 111. | 13 | 2  |
| 7.  | 9  | 5  | 42. | 11 | 4  | 77.  | 12 | 3  | 112. | 13 | 2  |
| 8.  | 9  | 5  | 43. | 11 | 5  | 78.  | 12 | 3  | 113. | 13 | 2  |
| 9.  | 9  | 5  | 44. | 11 | 5  | 79.  | 12 | 3  | 114. | 13 | 3  |
| 10. | 9  | 5  | 45. | 11 | 6  | 80.  | 12 | 3  | 115. | 13 | 5  |
| 11. | 9  | 10 | 46. | 11 | 6  | 81.  | 12 | 3  | 116. | 13 | 6  |
| 12. | 9  | 10 | 47. | 11 | 6  | 82.  | 12 | 3  | 117. | 13 | 7  |
| 13. | 10 | 0  | 48. | 11 | 6  | 83.  | 12 | 3  | 118. | 13 | 8  |
| 14. | 10 | 0  | 49. | 11 | 6  | 84.  | 12 | 4  | 119. | 13 | 9  |
| 15. | 10 | 2  | 50. | 11 | 6  | 85.  | 12 | 5  | 120. | 13 | 9  |
| 16. | 10 | 2  | 51. | 11 | 8  | 86.  | 12 | 5  | 121. | 14 | 0  |
| 17. | 10 | 3  | 52. | 11 | 9  | 87.  | 12 | 5  | 122. | 14 | 0  |
| 18. | 10 | 6  | 53. | 11 | 9  | 88.  | 12 | 5  | 123. | 14 | 0  |
| 19. | 10 | 6  | 54. | 11 | 9  | 89.  | 12 | 6  | 124. | 14 | 0  |
| 20. | 10 | 6  | 55. | 11 | 10 | 90.  | 12 | 6  | 125. | 14 | 0  |
| 21. | 10 | 6  | 56. | 11 | 10 | 91.  | 12 | 6  | 126. | 14 | 0  |
| 22. | 10 | 7  | 57. | 11 | 10 | 92.  | 12 | 6  | 127. | 14 | 0  |
| 23. | 10 | 10 | 58. | 11 | 10 | 93.  | 12 | 6  | 128. | 14 | 1  |
| 24. | 10 | 10 | 59. | 12 | 0  | 94.  | 12 | 7  | 129. | 14 | 2  |
| 25. | 10 | 11 | 60. | 12 | 0  | 95.  | 12 | 7  | 130. | 14 | 2  |
| 26. | 11 | 0  | 61. | 12 | 0  | 96.  | 12 | 7  | 131. | 14 | 3  |
| 27. | 11 | 0  | 62. | 12 | 0  | 97.  | 12 | 8  | 132. | 14 | 10 |
| 28. | 11 | 0  | 63. | 12 | 0  | 98.  | 12 | 8  | 133. | 15 | 0  |
| 29. | 11 | 0  | 64. | 12 | 0  | 99.  | 12 | 8  | 134. | 15 | 0  |
| 30. | 11 | 0  | 65. | 12 | 0  | 100. | 12 | 10 | 135. | 15 | 4  |
| 31. | 11 | 0  | 66. | 12 | 0  | 101. | 12 | 10 | 136. | 17 | 5  |
| 32. | 11 | 1  | 67. | 12 | 0  | 102. | 12 | 11 | 137. | 18 | 0  |
| 33. | 11 | 2  | 68. | 12 | 1  | 103. | 12 | 11 | 138. | 19 | 0  |
| 34. | 11 | 3  | 69. | 12 | 1  | 104. | 13 | 0  |      |    |    |
| 35. | 11 | 3  | 70. | 12 | 1  | 105. | 13 | 0  |      |    |    |

Besides the above 138 cases in which the ages of first menstruation are given precisely to the year and month, I have been furnished with additional 46 cases in which the ages have been given precisely as to the year only. Thus in four, the menstruation had commenced after the age of 9 years, in nine after 10, in thirteen after 11, in twenty-four after 12, in five after 13, in six after 14, and in three after 15. So that, altogether, we have 2 cases of first menstruation after the age of 8 years, 14 after 9, 22 after 10, 46 after 11, 69 after 12, 22 after 13, 18 after 14, 6 after 15, 2 after 17; in 1 after 18. The following negative facts, which were furnished to me, are worth mentioning, namely, in one girl above 13, in four above 14, in one above 19, and in one above 40, the function has not yet appeared. The last two cases are no doubt quite exceptional, depending upon some undetected abnormality. On an average of all the cases the function begins after the age of 11 years and 9 months; on an average of the cases in which the age is precisely given, the age in which it commences is twelve years and one month, which may be looked upon as corroboratory of that laid down in Susruta, if we take Susruta's age as the average. But if we take the age laid down in Susruta as the minimum, which is more likely from the language employed, then we must come to



the conclusion that the minimum age of menstruation has, since the days of Susruta, become much lower, a fact which demands serious consideration.

As to whether climate, the degree of latitude, the position on the surface of the earth, the nature of the soil, and other surroundings have or have not any influence upon the menstrual function, its first appearance, its subsequent regularity, and its final decline, is a question which may be still regarded as open to discussion. I do not think facts have been collected with sufficiently scrupulous accuracy, and other circumstances, social and domestic, have been allowed due weight in the balance of causation, to warrant any positive conclusion on the point. A superficial view of available facts would seem to incline the mind to the belief that climate does influence the menstrual function, delaying its first appearance in the cold and hastening the period in tropical countries. After carefully weighing all the circumstances which might have a possible influence on the function, I am led to believe that if climate has any influence, it is trifling, not to say infinitesimal. There is no doubt, as our table will show, that the age of first menstruation here in Calcutta (I do not say Bengal advisedly) is earlier than in London, but I am more inclined to attribute this difference to the difference of social and domestic economy that obtains in the respective places. I have not said Bengal, because I have positive testimony that there is a striking difference between the ages of first menstruation in town and country. The earliest ages that I have quoted of early menstruation were in some of the rich families in Calcutta. And I have no doubt in my mind that high and luxurious living and early seeing and knowing of child-husbands and child-wives, favored by the anxiety of fond parents to see their little ones become fathers and mothers, are the chief causes of the forced puberty which we so much regret in our female no less than in our male children.

It is but fair to say that this evil of early marriage has reached its climax only in the present day; especially in lower Bengal, and more especially in Calcutta. The evil was till recently in Bengal, as it is still in the North-West, counteracted to some extent by a quasi-custom, by which the fulfilling of the actual rites of marriage, the actual seeing and knowing of child-husbands and child-wives, is prevented till after some maturity had been attained by both. With the progress of enlightenment this rigid grandmother's discipline has begun to be disregarded, and we have now true physiological marriage almost immediately after the ceremonial one is over. It is therefore high time that we should endeavour, by the light of common sense and science, to set matters right by fixing the minimum marriageable age of our girls, consistent with the normal development of the offspring and the preservation of the health of the mother.

The advocates of early marriage urge that the custom is nothing else than the expression of a stubborn necessity which has arisen from the fact of early pubescence in this country. I think, however, we are warranted, by what has been already adduced, in concluding that early marriages have been the cause of early pubescence. The primary object of marriage is no doubt the production of healthy offspring, and physiologically speaking it ought not to be consummated before the ages when the offspring is not calculated to be long-lived or healthy. The commencement of the menstrual function is no doubt an index to the commencement of puberty. But it is a grave mistake to suppose that the female, who has just begun to menstruate, is capable of giving birth to healthy children. The teeth are no doubt intended for the mastication of solid food, but it would be a grievous error to think that the child, the moment he begins to cut his teeth, will be able to live upon solid food. Our anxiety, on the contrary, should be that the delicate masticatory organs are not injured or

broken by giving the child too hard food. So when we see a girl is beginning to have the monthly flow, we should not only anxiously watch its course and regularity, but should also watch the other collateral developments of womanhood to be able to determine the better the time when she can become a mother, safely to herself and to her offspring. For it should be borne in mind that while early maternity results in giving birth to short-lived or unhealthy children, it at the same time seriously compromises the health of the mother also. I can speak positively on the subject from personal experience. A host of complaints from which our females suffer life-long, or to which they fall early victims, arise from early pubescence and early maternity.

This view of the state of things imperatively demands that, for the sake of our daughters and sisters, who are to become mothers, and for the sake of generations, yet unborn, but upon whose proper development and healthy growth, the future well-being of the country depends, the earliest marriageable age of our females should be fixed at a higher point than what obtains in our country. If the old grandmother's discipline, alluded to above, could be made to prevail, there would be no harm in fixing that age at 14 or even 12, but as that is well-nigh impossible, or perhaps would not be perfectly right and consistent with the progress of the times, I should fix it at 16.

MAHENDRA LAL SIRCAR.

[FROM MAULAVI TUMEEZ KHAN, KHAN BAHADUR.]

I really regret much that, owing to a variety of causes, I was not able before this to reply to your letter, regarding my opinion on the subject of the marriageable age of Native girls of Hindoostan and Bengal.

I might premise, that my personal experience strengthens the belief that a tropical region exerts an immense influence in inducing a rapid development of parts in both the animal and vegetable organization. A natural consequence of this is the earlier appearance of indubitable proofs of puberty amongst the girls of India in general, than is the case with persons of similar ages, but natives of different temperature of climate.

Habits of life and usages of society are not without their influence on age. A girl, who is born and bred up in different, and perhaps, luxurious circumstances, will reach the age of puberty earlier than what is likely to be the case in others, situated in opposite and adverse circumstances.

A Mahomedan girl, according to her law-givers, is considered to be "*Moo-ra-hek kao*" i. e., apta vivibas, when she is "*qureeb-ool-lia-loogh*" i. e., approaching the age of pubescence.

Experience and the laws both tend to establish the fact that in the tropical climates, this age is attained between the tenth and the thirteenth year. Although a girl may become marriageable at the age, but dictates of observation, common sense, and lastly biological laws cannot but lead us to the conclusion, that a female cannot be sufficiently mature for the fulfilment of the serious duties of a wife, much less for those of a mother, at the extremely tender and early age; and that where forced to do so, her delicate and hitherto immature organization becomes rapidly impaired both in health and vigour, and thus before she is actually young, she gets old and decrepit. This exerts its baneful influences on her progeny. Speaking in a scientific and humane point of view, I might safely pro-

nounce that in considering the proper age of marriage for a native girl of India, *we should not look to the time when the signs of puberty show themselves generally, but make it a point that under no circumstances is a girl to be allowed to get married before she has attained the full age of sixteen years at the least*; nor can there be entertained any doubt that were the consummation of marital rites deferred somewhat longer, it will tend to the improvement of the individual and the progeny too.

TUMEEZ KHAN.

[FROM DR. D. B. SMITH.]

(Second Letter.)

With reference to my former letter, dated 17th April, regarding the marriageable age of Native girls, I again address you, with the object of stating that I entirely agree with those high medical authorities who have recently laid before the Indian Reform Association the opinion that, as a rule, girls in this country marry much too early; that before completion of her sixteenth year a girl is physiologically immature; and that it would, in general, be very advantageous if marriages were deferred even for two or three years later than this.

Before the age specified (sixteen), a female cannot be said to be fully developed—either physically or mentally. Some parts of her osseous structure, which are essential to the reproductive function, are not yet consolidated. The first appearance of those means to be regarded as coincident with the most fitting time for marriage; they merely indicate the development of procreative power and a possible capacity for conception; although, it is to be observed, that a female may conceive before she has ever menstruated, and also that *infants* have even been known to menstruate.

The stomach digests, the brain elaborates thought, the voice gives utterance to such thought long anterior to the time at which these functions are performed with full force and in physiological perfection, and a similar law of Nature applies to the sexual system of the female. She may present the initiative signs of womanhood without its being at all desirable that she should at once become a mother. When a girl reaches the “pubescent” or “*nubile*” age, she may be said to have acquired the “*Via Generandi*,” but it is a few years after this that she arrives at what the Romans called her *Pubertas Plena* which is, physiologically, the most appropriate period for marriage.

I am aware that certain physicians and learned writers have expressed a different opinion on this point. Montesquieu enunciated the *dictum* that “women in hot climates are marriageable at eight, nine or ten years of age,”—adding (what, under the assumed circumstances, is certainly much more near the truth) that “they are old at twenty.” “The age of marriage,” says Mr. Sale, “or of maturity, is reckoned to be fifteen—a decision supported by a tradition of the Prophet, although Abu Hanifah thinks eighteen the proper age.” Prichard’s *Natural History of Man*, Vol. II., p. 655). Some physiologists believe that the catamenial function does not occur earlier in hot than in cold climates. Mr. Robertson, whose writings on this subject are well known, is a learned exponent of this view of the case. Allusion to his investigations may be found in Todd’s “*Cyclopædia of Anatomy and Physiology*”—Art.—“*Generation*”, Vol. II., p. 442.

The experience of Haller, Boerhave, Deman, Barns, Dewes and others were in support of a contrary opinion. There can, I think, be but little doubt that temperature, mode of life, moral and physical education, do produce decided variations in relation to puberty. The late Professor Traill, Editor of the *Eighth Edition* of the *Encyclopædia Britannica*, states that Fodere observed a difference in this respect between the inhabitants of the warm, maritime part of Provence and the elevated valleys of Entraunes and St. Etienne, and that he himself (Traill) had remarked a similar difference in Spain between the children in the plains of Andalusia and among the mountains of Cataluna. (*Outlines of Medical Jurisprudence*, p. 18.)

Dr. Tilt compiled from the works of various authors a Table of the Periods of first menstruation of 12,037 women, in hot, temperate and cold climates. The following are, briefly, the results arrived at:—

|                                          | No. of Observations. |       | Mean age. |       |
|------------------------------------------|----------------------|-------|-----------|-------|
| Hot Climates                             | ...                  | 666   | ...       | 13.19 |
| Temperate                                | ...                  | 7,237 | ...       | 14.91 |
| Cold                                     | ...                  | 4,134 | ...       | 16.41 |
| <i>Grand mean of all countries=14.85</i> |                      |       |           |       |

The Table referred to is to be found in Dr. Tilt's Work on *Diseases of Women*, 2nd edition, p. 35.

Menstruation has been found to be accelerated, amongst the Manchester Cotton-spinners, by continual exposure to a high artificial temperature. The effects of high temperature in hastening development, and organic functions generally, were well demonstrated by Reaumur's experiments on *Papæ*, and by Mr. Higginbottom's researches on the metamorphosis of the tadpole into the frog (Phil. Trans. 1850, p. 431, and Proceedings of the Royal Society, Vol. XI., p. 532.)

Those who desire to study fully the subject of Puberty, in all its bearings, should consult the writings of Bischoff, Raciborski, Coste, Pouchet, Pierre de Boismont, Whitehead, Arthur Farro, Allen Thomson, Robertson, Mayer (*"Des Rapports Conjugaux"*), Meigs, &c., and different standard Treatises on Medical Jurisprudence, as those of Beck, Orfila, Casper, Chevers, Taylor, &c.

Allowing that it would be unphilosophical to endeavour absolutely to fix any purely arbitrary date for marriage in any country, I myself believe that a Bengal female, after the age of sixteen, may marry and bear healthy offspring; whilst the same individual, at an earlier age, would be very liable to beget children feeble in every sense of the term.

I think we may even go so far as to say that too early marriage is inevitably bad, and radically destructive of national vigor. Not so, it must be confessed, thought Voltaire's friend, of whom he writes as follows, in his *Dictionnaire Philosophique* (Tome Sixieme, p. 131):—"Un grand politique Italien, qui d'ailleurs etait fort savant dans les langues Orientales, chose tres rare chez nos politiques, me disait dans ma jeunesse: *Caro figlio*, souvenez que les Juifs n'out jamais en qu'une bonne institution,—celle d'avoir la virginite en horreur."

The reason why the ancient Jews thus attached a certain stigma to virginity, is ably explained, both on political and religious grounds, by Mr. Leckie, in his *"History of European Morals,"* Vol I., p. 112. The same learned author (at p. 118) indicates why it is that the views of priests and political economists are somewhat at variance on this subject; the former believing that "the postponement of marriages, through prudential motives, by any large body of men, is the fertile mother of sin, whilst the latter opposes early marriage on the ground that "it is an essential condition of material well-being that the standard of comfort should not be depressed."

I am inclined to believe that very early marriages in this country are mentally degrading as they are physiologically objectionable. It would be altogether unbecoming and out of place for me to enter into the subject of the moral objections to early marriage; the more so as it is almost self-evident that the artificial forcing of physical instincts, and the consequent unnatural stimulation of sexual passion, cannot be regarded as a mere error of judgment. It certainly involves a degree of depravity the consideration of which may, however, safely be left to the "intuitive moralist."

The medico-legal bearings of this subject are most important, and they fall much more within the province of the physician. Only a few days ago, a girl aged *eleven* years was brought to me, suffering from advanced Secondary Syphilis, which had been directly contracted by the pitiable child,—her parents being both healthy. The girl was in tears, and endeavoured to conceal the truth; whilst the mother declared her daughter to be *virgo intacta*,—but it was not so.

I earnestly hope that the thinking and good men by whom Native society is more or less led, may, in time, succeed in bringing about some change towards abolishing the prevailing custom of child-marriage in this country. The subject deserves most earnest consideration; and it is one, the importance of which should continually be impressed on the minds of the people by all those leaders of thought who speak with authority amongst their countrymen and who may have it, more or less, in their power to regulate prevailing opinions or to modify the social usages of the country. It may, I think, without any exaggeration or cynicism, be said that the present system of early marriage in Bengal panders to passion and sensuality, violates the requirements of nature, lowers the general standard of public health, lessens the average value of life, takes greatly from the general interests of existing society, and allows a present race to deteriorate both to its own disadvantage and to the detriment of future generations. The results of reform in this direction would undoubtedly be of great importance. As I said in my former letter, however, the medical arguments against early marriage ought to be much more precise and cogent than any that have yet been adduced. Physiological observations on the subject have neither been extended nor have they been recorded with enough of care. The importance of a broad social question of this kind ought, in great measure, to be determined, and the scientific arguments relating to it grounded, on a fixed and sound philosophical basis, for I believe the saying to be a true one that no mere theory will ever throw down ancestral traditions.

Mr. F. G. P. Neison, in the Preface to his valuable "*Contributions to Vital Statistics*," indicates, as "an immense field which still remains uncultivated," even in England, the investigation of the following questions:

"The influence of age at marriage on the fruitfulness of the marriage. The influence of age at marriage on the mortality of children born therefrom. The influence of age at marriage on the sex at issue, and also on the relative mortality of the first, second and third born, as well as on each subsequent birth in consecutive order."

I observe that the Editor of the *Indian Medical Gazette* has, in his last issue, commented somewhat derisively (one might almost say—"with plentiful lack of politeness") on the present movement of the Indian Reform Association, regarding the marriageable age of Native girls. This is to be regretted, even although the home-thrusts are playful.

"It seems to us that if the educated and enlightened Native gentlemen referred to by our reformers were anxious for the solution of a problem of this kind, they would hardly seek for advice on the subject from medical practitioners; evidently questions of this description must and always will be settled by the dictates of society, guided by common sense, rather

by physicians and philosophers. We all know the answer of the "wise man" quoted by Bacon when asked when a man should marry—"a young man not yet, and eldermen not at all," and we doubt not the members of the Indian Reform Association have received some such prudent answer from the professional men they have consulted regarding the marriageable age of their daughters."

Such is the sententious ruling of the *Medical Gazette*. I can only hope that "our reformers" may survive such admonition and censure, and that they may live to prove that they are truly in earnest in this matter.

With all due respect for the opinions of the *Medical Gazette*, I presume to think that the members of the Indian Reform Association may very well be pardoned for asking—in connection with such a subject as that of early or late marriage—"What are the teachings of Physiology?"—seeing that true facts and sound principles last for ever, whilst individual opinions and conventional customs are liable at any hour to change. It even appears to me natural and reasonable that they should have put this question to professional men whose special business it is to investigate such subjects,—men who have sometimes very flatteringly no doubt been called "*Ministri et interpretes Naturæ*,"—whose duty and privilege it is to raise, by every possible means, the general standard of health and happiness, and who may, therefore, without any offence be appealed to in questions affecting the science of population, and the popular bearings of medical knowledge.

Although this letter is already too long, I cannot refrain from adding to it a quotation from the lectures of a learned American Professor (Dr. Meigs of Philadelphia) whose writings on the subject of Puberty are most interesting and philosophical. *Apropos* of the wisdom or otherwise of consulting medical practitioners on social subjects, he writes :—

"Physicians are the health officers of society. I would that they as a body were awake to the importance of so guiding the public mind on all topics connected with the conservation of health, as to exert the whole influence of the profession, a great influence, in impressing upon the public mind, clear and sound notions in regard to those hygienicuses and appliances which the public either know not or overlook perhaps in the hurry and cares and embarrassments of the business and occupations of the world.

"A physician ought to exert the intellectual power which by his position in society he is presumed to possess in protecting society against the evils of ignorance on hygienic subjects. Forty thousand medical men in the United States should not always allow their day and generation to pass away without leaving some signs of progress, and effecting some amelioration of the condition of society, beyond the mere restorative results of their therapeutical prescription."

There is assuredly some work of the same kind for medical men to do in India ; and it would, in my opinion, be hard to instance any subject upon which they could more usefully bring their experiences and wisdom to bear, than upon that which relates to the discouragement of child-marriages amongst the Natives of Bengal.

DAVID B. SMITH, M. D.

—*Indian Mirror*, 23rd & 26th June, and 17th, 19th & 21st July, 1871.

WE have to tender our best thanks to the Editors of the following Periodicals for regularly exchanging with us:—

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*The Western Homœopathic Observer.*

*"The Homœopathic Sun."* (We have not received this Journal for a long time past.)

*The American Homœopathist.*

*The American Journal of Homœopathic Materia Medica.*

*The New England Medical Gazette.* (The Editor has very kindly sent us this very valuable Journal from its commencement, for which we cannot be too thankful.)

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*The Soma Prakasha* (Bengali).

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*The Prayag Duta* (Bengali).

*The Abala Bandhava* (Bengali).

*The Gramvarla Prakashika* (Bengali).

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*The Bamabodhini Patrika* (Bengali).

*Ramayanam : Devanagar Text with Bengali Translation* (publishing in series).

We shall be glad to exchange with any Medical Periodical in the world.

Books, &c., for review, to be sent, carriage paid, to the Editor direct.

# चरकसंहिता ।

सूत्रस्थानम् ।

पञ्चमोऽध्यायः ।

अथातो मात्राश्रितीयमध्यायं व्याख्यास्यामः ।

इति ह स्माह भगवानात्रेयः ॥

मात्राशी स्यात् । आहारमात्रा पुनरग्निवलापेक्षिणी । यावद्य-  
स्याशनमशितमनुपहत्यप्रकृतिं यथाकालं जरां गच्छति तावदस्य  
मात्राप्रमाणं वेदितव्यं भवति ॥

तत्र शालिषट्कसुङ्गलावकपिप्पलैश्चशशरभयम्बरादीन्या-  
हारद्रव्याणि प्रकृतिलघून्यपि मात्रापेक्षीणि भवन्ति । तत्रा  
पिष्टकेक्षुक्षीरविकृतिमाघानूपोदकपिशितादीनि आहारद्रव्याणि  
प्रकृतिशून्यापि मात्रामेषापेक्षन्ते ॥

## CHARAKA SANHITA.

### CHAPTER. 5.

AND now we shall expound the chapter treating of food, &c., thus said the venerable A'treya.

Each individual ought to take a measured quantity of food, the measure depending upon the power of digestion. The best standard of the due measure of food for an individual is the quantity which does not injure the constitution and can be digested in due time.

Hence śali (टैश्मस्तिक धाना), shastika (आडुश धान, rice which matures in 60 days), mudga (मुग, phascolus aurens), lāya (लारुई,



नचैवमुक्तद्रव्ये शुक्लपक्वमकारणं मन्वेत । लघूनि हि द्रव्याणि  
वाय्वग्निगुणवज्जलानि भवन्ति । दधिवीसोमगुणवज्जलानीत-  
राणि । तस्मात् स्वगुणादपि लघून्वाग्निसन्धुक्षणास्वभावान्यल्प-  
दोषाणि चोच्यन्ते अपि सौहित्योपयुक्तानि ॥ गुरुणि पुनर्नाग्नि-  
सन्धुक्षणास्वभावान्यसामान्यादतश्चातिमात्रं दोषवन्ति सौहित्योप-  
युक्ताव्यन्यत्र व्यायामान्निवलात् ॥ सैषाभवत्यग्निवलापेक्षिणी ।  
मात्रा न च नापेक्षतेद्रव्यम् । द्रव्यापेक्षया च त्रिभागसौहित्यमर्द्ध-  
सौहित्यश्चा गुरुणामुपदिश्यते । लघूनामपि च नातिसौहि-  
त्यमग्निसन्धुक्षणाद्यर्थः । मात्रावद्वायनमशितमनुपहत्यप्रकृतिं बल-  
वर्णमुखाद्युषा योजयत्युपयोक्तारमवश्यमिति ॥ भवतिचात्र ॥

a sort of quail, *perdix chinensis*), *kapinjala* (कोर टिटिर, francoline partridge), *ena* (कृष्ण गर, a kind of black deer), *śaśa* (hare), *śarabha* (large horned deer), *śambara* (a sort of deer), &c.—these edibles though naturally light (easy of digestion) require to be eaten in measured quantity.

Again, cake, sugarcane and its products, milk and its transformations, *māsha* (माष कलाई), meat of amphibious and aquatic animals, these being heavy (difficult to digest) should only to be taken in measured quantity (for digestion).

Such being the case, the distinction between light and heavy food must not, however, be thought to be without reason. The light foods are composed chiefly of the wind and fire elements, and the heavy foods of the earth and water elements. Hence, by virtue of their composition, the light foods, being naturally promoters of digestion, are said to be less injurious, even when taken in excess. But the heavy foods, from their dissimilarity to the fire element not being promoters of the digesting fire, become, when taken in excess, the causes of excessive disorder, except when the digestive power is sharpened by exercise. The measure of the

शुद्धपिष्टमयं तस्मान्नखण्डु खान् दृढुकानपि ।

न जातु भुक्तवान् खादेत् मात्रां खादेत् बुभुक्षितः ॥ १ ॥

वज्रूरं शुष्कश्याकानि शालूकानि विषादि च ।

नाभ्यसेद्गौरवान्मांसं क्षयं नैवोपयोजयेत् ॥ २ ॥

कूर्चिकांश्च किलाटांश्च शीकरङ्गव्यमामिषम् ।

मत्स्यान्दधि च माषांश्च यवकांश्च न शीलयेत् ॥ ३ ॥

पठिकान् शालिसुङ्गांश्च सैन्धवामलके ववान् ।

आन्तरीक्षं पयः सर्पिर्जाङ्गलं मधु चाभ्यसेत् ॥ ४ ॥

food depends not only upon the power of digestion but upon the quality of the substance as well. Of the heavy substances, according to their quality, a third or a half is to be taken as the measure of satiety.

Even light foods should not be taken to satiety, in order that the digestive fire may be kept burning; because food, taken in due measure, far from injuring the constitution, gives strength, lustre, health, and long life. Of this, more in detail:

1. Hence heavy foods such as cakes, and flattened rice (चिड़े) should not be taken on a loaded stomach. They should be taken in measured quantity even in full appetite.

2. Dried meat, dried greens, esculent roots of the nymphaea and the water lily should not be taken as habitual food, because they are heavy food. Meat should not be given to those who have become emaciated through starvation.

3. Casein (इना), coagulated milk, pork, beef, fish, curd, māsha, yavaka (कून्ध कर्माहे), these should not be used as habitual food.

4. Shastika, śali, mudga, rock salt, āmlaka (अम्लक), myrobalan emblica, barley, rain-water, milk, ghrita (clarified butter), game (meat of animals taken in forest), honey,—these may be taken daily.

तच्च नित्यं प्रयुञ्जीत स्वास्थ्यं येनानुवर्त्तते ।  
 अजातानां विकाराणामनुत्पत्तिकरञ्च यत् ॥ ५ ॥  
 अतर्ज्ज्वयरीरस्य कार्यमभ्यञ्जनादिकम् ।  
 स्वस्थवृत्तिमभिप्रेत्य युयातः संप्रवक्ष्यते ॥ ६ ॥  
 सौवीरमञ्जनं नित्यं हितमक्ष्णोः प्रयोजयेत् ।  
 पञ्चरात्रेऽष्टरात्रेवा स्नावणार्धं रसाञ्जनम् ॥ ७ ॥  
 चक्षुस्तेजोमयं तस्य विशेषात्क्षेप्तोऽभवम् ।  
 दिवा तन्मप्रयोक्तव्यं नेत्रयोस्तीक्ष्णमञ्जनम् ॥ ८ ॥  
 विरेकदुर्वला दृष्टिरादित्यभ्याप्यसीदति ।  
 तस्मात् स्नाव्यं निशायान्तु ध्रुवमञ्जनमीयते ।

5. And those foods may also be daily taken which are calculated to promote health ; and likewise those substances which prevent the development of diseased conditions, otherwise liable to spring forth.

6. And now having for our object the health of the body, we shall speak according to their qualities, of collyrium, &c.

7. To keep the eyes in health, sauviranjana should be used daily. And to cause discharge from the eyes, rasānjana should be used every 5th or 8th night.

8. The eyes of such a person (i. e., who applies the anjan) will acquire strength, and especially be free from phlegm.

The strong (sharp) collyrium should not be used in the day time ;

9. Inasmuch as the weakness of sight, already induced by the discharge (caused by the collyrium), will become more so by exposure to the rays of the sun.

Hence collyria, which cause discharge (from the eyes), should be used only at night.

ततः श्लेष्महरं कर्म हितं दृष्टेः प्रसादनम् ॥ ९ ॥

यथा हि कणकादीनां मणीनां विविधात्मनाम् ।

धौतानां निर्मला शुद्धिसौलभैलकचादिभिः ॥ १० ॥

एवं नेत्रेषु मर्त्यानामश्चनाद्योतनादिभिः ।

दृष्टिर्निराकुला भाति निर्मले नभसीन्दुवत् ॥ ११ ॥

हरेणुकां प्रियङ्गुञ्च पृथ्वीकां केशरं नखम् ।

क्रीवेरं चन्दनं पत्रं त्वगेलोशीरपद्मकम् ॥ १२ ॥

ध्यामकं मधुकं मांसीशुग्लुत्वगुरु शर्करम् ।

न्यग्रोधोदुम्बराश्वत्थसालोप्रत्वचः शुभाः ॥ १३ ॥

वन्यं सर्जजरसं सुखं शैलेयं कमलोत्पले ।

श्रीवेष्टकं शलकीञ्च शुकवर्धमथापि च ॥ १४ ॥

Hence whatever destroys phlegm is good for the eyes and makes the sight clear.

10 & 11. Just as gold and the various precious stones and pearls washed with oil, cloth, and hair become clear and bright, so the eye of man by collyrium and lotion become clear-sighted, like the moon in a clear sky.

12. Harenuka (रेणुक), priyangu, prithvika (कृष्ण जिरै, nigella sativa), kesāra (नाग केशर), nails (नखी, apparently a dried shell-fish), hrivera (बाली), red sandal wood, patra (तेजपत्र), cinna-mon, cardamoms, usira (अश्वत्थ), padmaka (पद्म काष्ठ),

13. Dhyāmaka (गङ्गा तून), liquorice, guggula (गुग्गुल), aguru (अगुरु चन्दन), sugar, good bark of nyagrodha (बट, ficus indica) of urumvara (ऊर्ध्व डूबूरा, ficus glomerata), of aśvatthva (अश्वत्थ, ficus religiosa), plaksha (प्लक्ष, ficus infectoria), and of lodhra,

14. Vanya (केकट मूत्र), sarjjarasa (धुना), musta (मूत्र), saileya (शैलेय), kamala (पद्म), utpala (निमग्न), śrivesta (रजत, resin),

तच्च नित्यं प्रयुञ्जीत स्वास्थ्यं येनानुवर्त्तते ।  
 अजातानां विकाराणामनुत्पत्तिकरञ्च यत् ॥ ५ ॥  
 अतर्ज्वंशरीरस्य कार्यमभ्यञ्जनादिकम् ।  
 स्वस्थवृत्तिमभिप्रेत्य गुणतः संप्रवक्ष्यते ॥ ६ ॥  
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यथा हि कणकादीनां मणीनां विविधात्मनाम् ।

धौतानां निर्मला शुद्धिसौलक्ष्यैकधादिभिः ॥ १० ॥

एवं नेत्रेषु मर्त्यानामञ्जनाद्योतनादिभिः ।

दृष्टिर्निराकुला भाति निर्मले नभसीन्दुवत् ॥ ११ ॥

हरेणुकां प्रियङ्गुश्च पृष्ठीकां केशरं नखम् ।

क्रीवेरं चन्दनं पत्रं त्वगेलीशीरपद्मकम् ॥ १२ ॥

ध्यामकं मधुकं मांसीगुग्गुल्वगुरु शर्करम् ।

न्यग्रोधोडुम्बराश्वत्थस्तलोध्रत्वचः शुभाः ॥ १३ ॥

वन्यं सर्ज्जरसं मुखं शैलेयं कमलोत्पले ।

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Hence whatever destroys phlegm is good for the eyes and makes the sight clear.

10 & 11. Just as gold and the various precious stones and pearls washed with oil, cloth, and hair become clear and bright, so the eye of man by collyrium and lotion become clear-sighted, like the moon in a clear sky.

12. Harenuka (रेणुक), priyangu, prithvika (कृष्ण जिरे, nigella sativa), kesāra (नाग केशर), nails (नखी, apparently a dried shell-fish), hrivera (बाली), red sandal wood, patra (तेजपत्र), cinnamon, cardamoms, usīra (अश्वत्थ), padmaka (पद्म काष्ठ),

13. Dhyāmaka (गङ्गा तृण), liquorice, guggula (गुग्गुलु), aguru (अगुरु चन्दन), sugar, good bark of nyagrodha (बट, ficus indica) of urumvara (उरुवर, ficus glomerata), of aśvatthva (अश्वत्थ, ficus religiosa), plaksha (पाकृष्ट, ficus infectoria), and of lodhra,

14. Vanya (केपुट मूत्र), sarjjarasa (धुन), musta (मूत्र), saileya (शैलेय), kamala (पद्म), utpala (निलम्बु) śrivesta (रज, resin),

पिष्टातिग्रेष्मरेणीकां तां वत्तिं ववसन्निभाम् ।

अङ्गुष्ठसन्निभां कुर्वादिष्टाङ्गुलसमां भिषक् ॥ १५ ॥

शुष्कां विगर्भां तां वत्तिं धूमनेत्रार्पितां नरः ।

स्नेहाक्तामग्निसंक्षुष्टां पिबेत् प्रायोगिकीं सुखाम् ॥ १६ ॥

वसाहतमधूष्णैर्युक्तिवृत्तैर्वरौघधैः ।

वत्तिं मधुरकैः क्षत्वा सैद्धिकं धूममाचरेत् ॥ १७ ॥

श्वेता ज्योतिष्मतीचैव हरितालं मनःशिला ।

गन्धाश्चासुरपलाया धूमोमूर्ध्वविरेचने ॥ १८ ॥

śalvaki (शालई, नवार, gum olibanum, boswellia thurifera),  
śukavarha (गौडिग्राम).

15. These should be pounded and plastered over a stick of reed of eight fingers' breadth long. The thickness of the plaster should be of the length of a barley-corn, the whole diameter of the plaster being of the thickness of the thumb.

16. When dried, the stick of reed should be taken out. The (hollow) stick of plaster thus formed should be inserted in a smoking tube, and then being saturated with oil, and lighted, the smoke thereof should be drunk\* (drawn in by the mouth). This is prāyogikī (i. e., may be used daily) and is beneficial.

17. Fat, ghrita, wax, in sufficient quantity, and the varaushadha, madhuraka (jivaniya gan) should be made into a stick of plaster and the cooling smoke thereof drunk.

18. Setā (अपराजिता), jyotismatī (नवग्रहटैकी), yellow arsenic, red arsenic, aguru, cinnamon leaves and other aromatics, the smoke of these substances is useful as cerebral purgatives.

(To be continued).

\* "To smoke" is, in Sanskrit, expressed by "to drink smoke."



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BORAX, NATRUM BORACICUM.

*Chemical Composition* : That given by Hahnemann is not correct. The composition of the anhydrous salt is  $\text{NaO}, 2\text{BO}_3$ , that is, one equivalent of soda with two equivalents of boracic acid. Hence the salt is a biborate (not a sub-borate) of soda. Its crystalline form varies with the equivalents of water that it takes up. If only 5 equivalents are taken up, it becomes *octohedral*; if ten, *prismatic*.

*Old School uses* : Besides being used as a local application in aphthæ of children, and internally as a promoter of uterine contractions, which Hahnemann mentions, Borax is also used topically in several skin diseases and also to hemorrhoidal tumors, and internally as a lithonlytic, as a diuretic in dropsies, and also in amenorrhœa.

*Concordances.*

*Moral and intellectual faculties.*—Bell. calc. lyc. natr.-mur. n-vom. phosph. rhus. sep. sulph.

*Seat of the diseases.*—Alum. arn. ars. asaf. aur. bar. bell. bry. CALC. carb-veg. caust. cham. chin. dulc. graph. hep. ignat. kali. lach. lyc. MERC. mezer. natr.-mur. nitr-ac. n-vom. petr. phosph. plumb. PULS. rhus. ruta. SEP. sil. spig. staph. sulph.

*Morbid states and sensations.*—Acon. arn. ars. asaf. bell. bry. CALC. carb-veg. cham. chin. graph. hell. ignat. kail. lyc. MERC. natur.-mur. n-vom. PHOSPH. PULS. rhus. sep. sil. stann. staph. SULPH. zinc.

*Glands.*—Bell. bry. ignat. jod. merc. n-vom. phosph. puls. sulph.

*Skin.*—Bar. bry. calc. cham. graph. hep. lyc. merc. nitr-ac. petr. rhus. scill. sep. sil. staph. sulph.

*Sleep and dreams.*—ARS. calc. ignat. KALI. mur-ac. n-vom. puls. ran-bulb. sep. sil.



*Pyrosis*.—Acon. bell. bry. calc. cham. hep. natr-mur. n-vom. rhus. veratr.

*Time*.—Ignat. kali. nitr. n-vom. ph-ac. rhus. thuj.

*Exacerbations*.—Acon. amm. ars. bell. bry. CALC. caps. cocc. ferr. graph. ignat. jod. kali. LYC. mgs. m-arct. mang. MERC. N-VOM. phosph. PULS. RHUS. sabad. sep. SIL. SPIG. strout. sulph. VERATR.

*Concordances in general*.—Acon. ars. bell. BRY. CALC. carb-veg. cham. chin. graph. hep. ignat. kali. LYC. MERC. natr-mur. N-VOM. petr. phosph. PULS. RHUS. SEP. SIL. spig. staph. SULPH. veratr.

*Antidotes*.—Cham. coff.—(Noc. acetum. vinum.)

### Hahnemann's Preface.

These salt crystals are used for souldering and for castings. The Venetians first imported them impure, from the East-Indies, where they are especially found in some of the lakes of Thibet; hence their name *Borax Veneta*. Afterwards they were sold by the Dutch after having been refined by secret processes. Lately borax has been prepared, by the French, by means of an addition of Natron, from a kind of crude boracic acid, found in some of the warm springs and lakes of Toscana, in the neighbourhood of Sasso. In 100 parts of borax there are 22 parts of boracic acid, 32 parts of natron, and 6 parts of water. Borax is, therefore, not entirely saturated with its acid, (acidum boracicum, sal sedativum Hombergii.) This acid forms shining scales, a little sour, bitter, the symptoms of which are not yet known, although they must be very important.

Borax has, for a long time, already, been used as a domestic remedy, against the aphthæ of children, and for the purpose of facilitating the labor-pains of parturient wombs.

*Antidotes*: *Coffea Cruda* against the sleeplessness and the head-complaints of borax; *Chamomilla* against the painful swelling of the cheeks. *Wine* aggravates the symptoms, especially those of the chest, and *vinegar* reproduces the symptoms which had already been relieved, especially the stitches in the chest.

### Pathogenitic Symptoms.

#### Mind:—

Great anguish, with great drowsiness; the anguish increased until 11 o'clock at night, when the prover became giddy and fell asleep.

Anguish with weakness, trembling of the feet, and palpitation of the heart, (during the act of mesmerizing.)

Anguish with rumbling in the body (? belly.)

Contrary to his custom, he feels a good deal of anguish when driving down hill; sensation as if his breath were arrested.

The child feels anguish when dancing; when rocked in the arms, it has an anxious countenance during the downward motion.

Dread of contagion.

Easily frightened; both he and she start at a distant shot.

Easily frightened; he hears some anxious screaming which causes all his limbs to be affected by the fright.

The little child is much frightened at hearing people clear their throats and sneeze.

Irritable disposition during an important business.

Very earnest.

Low-spirited and peevish.

The child is peevish, weeps and screams, contrary to its habit.

Very peevish at 4 o'clock in the afternoon, and vexed, although he was good-humored before; he then rebukes people on account of trifles, for many days.

Vehement, vexed, easily finds fault.

Vehement, he scolds and swears at trifles.

He does not feel vexed, and is indifferent to things which formerly caused him a good deal of vexation.

At intervals the child cries very hard; after a few minutes the child stops crying, and is then very friendly and smiles.

Very cheerful, bright, affectionate, well disposed to any kind of labor; in the forenoon.

Want of disposition to work; he only does what he is obliged to, as if by force.

He fritters away his time in the afternoon, from one business to another, from one room to another, does not adhere to one object.

Finds pleasure in doing his business.

Occasional loss of ideas.

He has to reflect a good deal, to know all that he has done through the day; it takes him a long time to recollect distinctly whether he had been at a place yesterday or to-day.

**Head:—**

Attacks of vertigo with loss of presence of mind.

Vertigo early, when in bed.

Vertigo in the evening, when walking, as if some one pushed\* him from the right to the left side.

Giddy, with fulness in the forehead early in the morning, so that he instantly loses his good humour.

Vertigo and fulness of the head, on ascending a mountain or a stair-case.

Fulness in the head, and pressure round the eyes, as if the eyes were held fast, so that they can scarcely move.

Fulness in the head and pressure in the small of the back, when sitting; at the same time sense of sleepiness in the eyes.

Fulness in the head early in the morning, with want of clear ideas and presence of mind, so that he was unable to perform any kind of mental labor, nor has he any desire for it; after walking in the open air he felt better; but afterwards he felt a great weakness in the feet and joints.

Heaviness of the head, (first days).

Light, bright head.

Headache on the top of the head, and in the forehead, in the evening.

Headache, with obtusion of the whole head, and stitches in the left ear, in the evening.

Headache in the forehead, with stitches in the left ear, and in a hollow molar tooth of the left side, lower row, in the evening.

Headache all over, with nausea, inclination to vomit, and trembling of the whole body, early in the morning, at 10 o'clock; this symptom appeared in two females at the same time.

Pressive headache over the eyes, going off soon, when walking in the open air.

Pressure over the eyes from time to time.

Dull pressive headache early in the morning, especially in the forehead, (first days.)

Dull pressure in the forehead.

Pressive drawing headache in the forehead, over the eyes and towards the root of the nose, sometimes extending into the nape of the neck; when stooping there is a strong pressure on the frontal bone, when reading or writing the pain is much more violent, with pressure in the region of the spleen.

Drawing pain in the forehead towards the eyes.

Shooting pain in the forehead, nausea and tearing in both eyeballs, in the afternoon.

Tearing on the vertex, in the afternoon, with considerable buzzing of the ears.

Tearing in the left half of the head, starting from a hollow tooth.

Stitches commencing at the right temple, and extending into the left half of the forehead.

Shooting stitches in the vertex, left side; these are afterwards followed by shooting stitches in the genital organs, and in the subsequent night, by lewd, disgusting dreams, in a married woman.

Lancinating headache over the eyes, and in the temples, with heat and coldness in alternation, so that she sometimes had hot, sometimes blue hands, with stitches in the swollen glands of the neck, which then became softer and smaller.

Stitches deep in the right part of the head, with running of pus out of left ear, and such violent stitches that he drew back his head involuntarily; at the same time there was a tickling in the left ear, as before a discharge, which was afterwards followed by sharp hearing.

Pressive, dull stitches into the right temple, occurring with the regularity of musical beats.

Boring at a small place near the vertex.

Throbbing in the forehead.

Throbbing headache in both temples, especially the right.

Throbbing headache in the occiput, as if something would suppurate, with shivering over the whole body, the whole night and following day.

Pulsative pressing upwards of the blood high up in the occiput.

*Hot head of the baby*, with hot mouth and hot palms of the hands.

**Scalp:—**

As in trichiasis, the hairs of the child become entangled at the extremities, and there adhere to one another; if these clusters of hair be cut off, the remainnig hairs become entangled again.

Sensitiveness of the external head to cold, and to changes of weather.

**Eyes:—**

- Sensation in the eyes as if something would press into them; going off by friction.

Sensation in the right lid, when sitting, as if something would squeeze out from within; the sensation is felt behind the skin, and comes from the temple; immediately afterwards pressure around the eyes.

Itching pain in the upper eye-lid, on opening the eye.

Pressure in the right eye, very painful, as if the eye were pressed into the orbit, early in the morning.

Cutting in the left eye, lengthwise, suddenly coming and going.

Tearing in both eyeballs, with shootings in the forehead, and nausea in the afternoon.

Stitches in the left eye in the evening.

Stitches in the ball of the eye, with contraction of the upper lid.

Itching in the internal canthus of the eye, so that she is often obliged to rub, the first days.

Itching in the eyes, sometimes with a feeling as if sand were in the eyes.

Soreness in the external canthi.

Burning in the eyes and instantaneous contraction of the same as soon as he puts on his glasses.

Pressive burning in the right eye, in the afternoon.

The baby becomes quite red round the eyes when weeping.

The eye-lashes turn themselves inwards into the eye inflaming it, especially in the external canthus, where the borders of the lids are quite sore.

Inflammation of the external canthus of the right eye, with irregularity of the eye-lashes, and nightly closing of the eye by gum.

Inflammation of the borders of the eye-lids, in a baby; he rubs his eyes, which become closed by gum during the night.

At night the eyes are closed with hard, dry gum, which irritates the eyes like sand.

Early in the morning, the eyes are closed by gum, and run.  
**Lachrymation.**

In the evening she has much trouble in closing her eye-lids, and early in the morning, in opening them.

Wavclets of light dancing before the eyes, when writing, so that he sees nothing distinctly; the eye sees bright waves, moving sometimes from the right to the left side, sometimes from above downwards; several mornings in succession.

Obscuration of the left eye in the evening; she had to make great efforts in order to see something, and nevertheless saw nothing.

Sensitiveness of the eyes to candle-light, in the evening.

**Ears:—**

Pain in the ear; intensely sensitive pressure behind the right ear.

Stitches in the ears. Stitches in the ears, when washing them with cold water, early in the morning.

Stitches in the left ear, the person waking up very early.

Itching in the left ear, with soreness in the same, after the wax had been removed; in the evening, when walking; at the same time a sort of stitches in the left side of the neck.

Soreness in the ear, when inserting the fingers into it.

Inflamed and hot swelling of both ears, with discharge of pus from the ears.

Discharge of pus from the ears, with lancinating headache.

Discharge of pus from both ears, after previous itching of the occiput.

An existing discharge from the ears ceases.

Quagging in the left ear, as if a thick grease were in it, which obstructs the ear; afterwards this opens again, in the evening.

Sudden sensation of obstruction in the ear, or as if the ear were wrapped up.

Hard hearing of the left ear, in a child of five years.

Tingling and whizzing in the right ear, which is afterwards changed to buzzing.

Tingling and buzzing in the right ear.

Roaring in the ears, the hearing being much harder.

Roaring in the left ear, as from a storm.

Dull drumming in the left ear, as above a subterranean vault.

**Nose:—**

Itching and tingling in the nose; he has to insert his finger into it.

The baby rubs his nose a good deal with the hands, then also his eyes.

Ulcer in the left nostril, in front towards the tip of the nose, with soreness and swelling of the tip of the nose.

Red and shining swelling of the nose, with a sensation as of throbbing and of tension.

A quantity of dry crusts in the nose, which are constantly reproduced in proportion as they are removed with the finger.

When blowing the nose a little blood comes off, after previous itching in the nose.

Bleeding at the nose early in the morning, and pulsative headache in the evening.

**Face:—**

The face of the baby looks miserable, pale, clay-colored.

Dull tearing in the left cheek, starting from a hollow tooth, with pressure in the forehead and in both eye-balls.

Sensation on the right side of the face, at the mouth, as if cobwebs had been formed there.

Occasional twitches of the muscles near the right commissure of the lips.

Burning heat and redness of the left cheek.

Erysipelas in the face.

Swelling, heat and redness of the cheek, with tearing pains in the zygoma, and great pain in the swelling when laughing.

Swelling of the face, with pimples on the nose and the lips.

Pimples in the face.

Red pimples on the cheeks and around the chin, in a baby.

**Jaws and Teeth:—**

The mouth of the baby is quite hot.

Pain in the corners of the mouth, as if they would ulcerate.

Crawling upon the lips as of beetles.

Burning at the upper lips, going off soon, in the evening.

Red inflamed swelling on the lower lips, as big as a pea, with burning soreness when touched.

Large patches, like herpes, around the mouth; the upper lips, after a burning heat, became covered with porrigo.

Toothache in a hollow tooth of the upper row, with swelling of the cheek, which is painful to the touch, with a sensation of tension.

Toothache in hollow teeth, dull and griping, in wet, rainy weather, in five persons at the same time.

Contractive griping in a hollow tooth.

Tearing and griping in a hollow tooth in the upper row, which feels as if it were longer, so that she cannot bite upon it nor bring the teeth together; at the time the gums are swollen and inflamed, as if an ulcer would form on the teeth; in the evening the pain also spreads into the inferior teeth, and only went off when falling asleep.

Tearing, starting out of the hollow teeth and extending into half the head, whenever she touches the teeth with the tongue, or takes cold water into the mouth.

Pressure in the hollow teeth in bad weather.

Dull pressive boring in a hollow tooth, in the evening, in cold air (the first days).

Pressive and grinding toothache, after every supper and breakfast, and relieved by smoking tobacco ; for several days.

Drawing pain in the teeth.

Stinging toothache in a hollow molar tooth of the lower row, with stitches in the left ear, and headache in the evening.

Fine stitches, intermittent, in all the teeth, mostly in a hollow molar tooth, on the left side, lower row.

Tingling and tickling in the upper and lower incisores, and afterwards conflux of saliva in the mouth.

A bit of a hollow tooth broke off spontaneously, in a female.

The teeth feel as if they were too long.

The gums of the upper teeth are bleeding, without any pain.

Swelling of the gums for three days, with pressure in the hollow teeth, in bad weather.

Inflamed, intense swelling of the external side of the gums, which swelling is very painful, ulcer on the gums with dull pain in a hollow tooth, swelling of the cheek and the whole of the left side of the face, as far as below the eye ; here the swelling is changed to a watery blister. (Smelling of chamomile removed the pain.)

#### **Mouth:—**

Slimy in the mouth, (the first days).

Aphthæ in the mouth.

Aphthæ on the inside of the cheek, it bleeds when eating.

Aphthæ upon the tongue.

Red blisters upon the tongue, as if the skin were pulled off ; they are painful at every motion of the tongue, or if something salt or acrid is brought in contact with it.

Dryness of the tongue, in the afternoon.

Spasm in the tongue, like stiffness, or as if the tongue had gone to sleep ; breathing was arrested by it.

The palate of the baby seems wrinkled, and it often screams when sucking.

The mucous membrane of the palate, in front, feels burnt and wrinkled, and is especially painful when chewing, for some days.

#### **Throat:—**

Dryness in the throat. Roughness of the throat, as from a grater.

Burning in the throat which forces him to swallow saliva, this being painful.

Much phlegm accumulates in the throat, which he is obliged to hawk up.

Tenacious phlegm in the throat.

Tenacious whitish phlegm in the throat, which can only be loosened with great exertions, for many days.

Much tenacious phlegm in the throat, which he finds it so hard to hawk up that it causes vomiting.

Hawking up of phlegm, early in the morning; the phlegm goes off easily, in lumps.

He hawks up green, loose phlegm.

A little piece of phlegm, streaked with blood, is hawked up.

Tearing in the head of the larynx, for two hours, in the evening.

Rough throat, early in the morning.

Roughness in the pit of the neck, with drawing stitches there, when coughing and sneezing; hawking up phlegm relieves the symptom.

Tearing extending from the throat into the chest, inducing cough.

Tickling in the throat, inducing a dry cough.

**Taste and Appetite:—**

The taste in the mouth is insipid and flat.

Bitter taste in the mouth; every thing that she eats, tastes bitter to her; even saliva.

When eating she has no taste, for some weeks.

Thirst early in the morning; he has to drink a good deal.

Appetite to eat is much less than usually.

Diminution of hunger and appetite; frequently, however, without any real appetite.

He has little appetite, especially for supper.

In the evening she has but little appetite, for some weeks.

No appetite for dinner. He eats very little.

The soup at dinner did not taste well, and excited sweat.

Aversion to dining, with coldness, drawing headache and colic, which subsided after three attacks of diarrhoea.

No desire for smoking.

After smoking, sensation as if diarrhoea would come on.

Increased appetite for breakfast. Much appetite, in the evening.

Desire for sour drinks.

During the meal, uneasiness of the whole body, with nausea, so that he had to make an effort in order to eat something; stretching himself backwards procured him relief.

Nausea during the meal.

**Stomach:—**

Distension from flatulence after every meal.

He relished his meal; after the meal, he felt distended, uneasy, unwell, peevish; walking in the open air, relieved a little, in the evening.

Distended abdomen after supper.

After having eaten mutton and stewed apples, fulness of the stomach, with peevishness and ill humour, and a fulness in the



head, as if the blood were pressing into the head by force.

Pressure at the pit of the stomach, with uneasiness, after eating pears, especially early in the morning, or in the forenoon.

Pain in the abdomen, shortly after dinner, as if diarrhœa would come on ; it goes off after the siesta.

Rumbling in the abdomen and diarrhœa after dinner.

Diarrhœa shortly after dinner, with debility in the joints and legs ; after walking, this symptom improves.

Cutting in the right hypochondrium, shortly after breakfast ; the cutting extends transversely across the abdomen, downwards, afterwards diarrhœa, being one sudden evacuation.

Diarrhœa after breakfast, four times in succession.

Hiccough after dinner.

Bad hiccough, which makes the throat rough.

The baby has frequent hiccough.

Nausea and little appetite.

Nausea and indisposition, as if the person would faint, early in the morning.

Nauseous and faintish, frequently in the afternoon.

Nausea at the sternum, from 3 o'clock in the afternoon until evening, several days in succession.

Nausea with periodical inclination to vomit.

Nausea early in the morning, with inclination to vomit ; going off after dinner.

Nausea unto vomiting when driving.

Nausea immediately after waking up, with great inclination to vomit ; vomiting, however, does not take place till he drinks a little water, which is succeeded by the vomiting of a good deal of phlegm, and sometimes some bitter substances.

Nausea with subsequent vomiting of phlegm, with heat, and a quick, feverish pulse.

Vomiting of sour slime, after having taken cacao for breakfast.

Pain in the stomach, as from bad digestion, when pressing externally upon the pit of the stomach.

Pain in the region of the stomach, after lifting a heavy weight the pain reached as far as the small of the back, where it became lancinating, so that she was unable to turn herself in bed without pain, the whole night ; early in the morning she felt better (two days before the catamenia).

Pressure at the stomach, after every meal.

Pressure at the pit of the stomach, which disappeared when walking.

Pressive stitches in the pit of the stomach, with dyspnœa, which oblige him to breathe deeply ; however, he is unable to do so, on account of a sharply pinching pain in the right side of the chest.

Contractive pain in the region of the stomach, every day, from four o'clock in the morning until noon ; a kind of winding

upwards which passes into the dorsal spine and there produces stitches, for several days.

Contraction at the pit of the stomach.

**Abdomen:—**

Severe pressure, as with the hand, in the left hypochondrium ; when driving in a carriage without springs.

After the siesta, a pressure in the left hypochondrium, from the last rib as far as the hip, which increases by external pressure, until evening.

Pressive pain in the left hypochondrium, as if a stone were lying there, when dancing ; the pressure disappeared by continued dancing.

Intensely painful pressure in the region of the spleen.

Pressure, and sometimes burning in the left hypochondrium, with a sensation as if something were rising into the chest from the region of the spleen, which descends again, during an expiration.

Cutting in the left hypochondrium, when walking fast, as if a hard, sharp, moveable piece were there, with a sensation in the abdomen, as if nothing but hard pieces were lodged there, which become intermixed with each other.

Pressure and stitches in the region of the spleen, increased by turning.

Stitches in the right lumbar region, increased when stooping, early in the morning, during a walk, the symptom abated when sitting down.

Colics several times during the day, as if diarrhœa would come on.

Weakness in the abdomen.

Colic, with shuddering and goose-skin.

Pinching in the abdomen at different times.

Pinching, contracting colic over the navel ; she had to curb herself, which made the colic disappear ; every day, early in the morning, for 5 minutes.

Pinching in the abdomen with diarrhœa.

Formation of flatulence, and frequent emission of flatulence.

Considerable rumbling in the abdomen, at night, relieved by the emission of flatulence, upwards and downwards.

**Stool:—**

Frequent tenesmus, with rumbling in the belly, and diarrhœa (first days).

Frequent tenesmus, with pinching in the belly, and light pappy evacuations.

Tenesmus, early in the morning, first with hard evacuations, then diarrhœa with burning in the rectum.

Frequently very light evacuations every day, (first days).

Stool every hour, soft slimy, and without any pain.

Very soft stool early in the morning, in the evening a natural

evacuation.

Soft, light-yellow, slimy stools, three times a day, with fainting.

Diarrhœa, two, three times, without any pain, (one hour after taking the medicine).

Diarrhœa, six times from morning till afternoon, 2 o'clock, without any pain.

Diarrhœa, without any pain, twice a day, with subsequent evacuation of slime and blood.

Diarrhœa, with rumbling in the belly (the first days).

Diarrhœa, towards noon, with rumbling and grunting in the abdomen.

Diarrhœa in the afternoon, with much flatulence succeeding hard stool.

The child has diarrhœa three times a day, at last like yellow water.

The first effect of borax is relaxation of the bowels, afterwards no stool for a couple of days, then hard stools once a day.

Hard stools with straining.

Green stools in a baby, with previous screamings.

Discharge of lumbrici.

The stools are easily expelled in the afternoon; previously peevish, low-spirited, dissatisfied; after the stools had been passed, cheerful, contented with one's-self and the world, and quietly awaiting the future.

Early in the morning a pale slime went off four times, once involuntarily.

Tenacious, viscid, yellowish slime with the stools.

Brown slime in the rectum, after the stools.

Reddish, liquid slime during stool, as if the stools were tinged with blood.

Discharge of the blood and slime from the rectum.

Distended vein of the rectum, as big as a goose-quill, soft to the touch and without any pain.

Itching of the rectum, in the evening.

Itching of the rectum as from the slime of hæmorrhoids.

Contraction in the rectum, with itching.

Boring and stinging pains in the rectum and small of the back.

Stitches in the rectum, in the evening.

#### **Urinary Organs:—**

Tenesmus of the bladder, without her being able to expel one single drop of urine, with cutting in the genital organs and distention in both hips, for two hours, in the evening.

Violent desire to urinate, at night, several times.

Violent instantaneous desire to urinate; he is almost unable to retain the urine, (first days).

Frequent micturition, (the first days).

The baby urinates almost every ten, twelve minutes; it fre-

quently weeps and cries before the urine is expelled ; for a considerable length of time.

Hot urine in a suckling.

Sharp smell of urine, (the first days).

Sharp, striking stench of the urine.

After micturition, burning straining in the urethra.

After micturition, pain as from excoriation in the urethra.

After micturition the extremity of the urethra feels sore.

Along the urethra, pain as from excoriation, especially when feeling it.

Dark-blue spot at the orifice of the urethra, as if the skin had gone, with biting pain during micturition.

The orifice of the urethra seems closed as with gum.

#### **Generative Organs:—**

*Male.*—Indifferent to an embrace.

Whilst he had his hand upon a sick female, from a feeling of kindness, he was attacked with sensual sensations, without any desire for coition.

Frequent excitement in the genital parts, without any desire for coition, (the first days).

Voluptuous mood.

Straining erection, early in the morning on waking up.

Pollution, with a dream as if he enjoyed an embrace, the semen coming out very fast, which wakes him up.

Cutting pains in the urethra during an involuntary effusion of semen, the semen being so thin that he imagines he urinates.

After a pollution, desires to urinate, and during micturition, he feels a cutting in the urethra.

During an embrace he loses his semen very quickly, and in the genital organs there is a constant irritation.

During an embrace, he has to wait a long time before the expulsion of semen takes place.

Lancinating soreness of the penis, at that place where a chancre had existed before, especially when touching the place.

*Fem.*—The courses appeared one month sooner, without any pain.

Courses four days too soon, without any pain ; except the evening and next morning before the appearance, heaviness at the chest, with arrest (interception) of the breath, and more violent buzzing of the ears.

Courses three days too soon, without any pain.

The courses which had been suppressed for six weeks, immediately made their appearance after taking borax ; they lasted for a day and then disappeared ; however they were so copious that they resembled a hæmorrhage.

Courses four days too early and very copious, with colic, nausea and pain extending from the stomach to the small of the back ; this lasted until midnight, when a copious sweat broke out, and she fell asleep.

Menses very scanty for two days ; copious on the third, with pale-red blood, until the sixth day, with faintishness, so that she was scarcely able to stand.

Suppression of the menses, fifty-four days, without any pain, then they appeared without any pain, first pale, in the afternoon redder and more abundant, ceased on the third day at night, returned on the fourth ; (the menses ought to have come three weeks after taking the drug).

Two months after taking the medicine the menses stopped, but appeared the next day, after she had another dose of borax, with pinching in the abdomen.

Beating in the head and buzzing in the ears during the catamenia.

Spasmodically pressing and lancinating pain in the groin, during the catamenia.

On the second day after the menses, pressure as from a stone in the region of the right ribs, as far as the scapula ; thence the pain went, like a spasm, into the stomach and the small of the back, with subsequent vomiting.

Leucorrhœa, white as mucus, without any other ailments, a fortnight after the menses.

Leucorrhœa, like albumen, with sensation as if warm water were flowing down, for several days.

Leucorrhœa ; thick as paste and white, for five days.

A female had been sterile for fourteen years ; on account of a chronic, acrid leucorrhœa, she received, among other remedies, borax, after which she became pregnant, and the leucorrhœa improved.

Easy conception, during the use of borax, observed in five women.

Stitches in the region of the uterus.

Sense of distention and stitches in the clitoris, at night.

#### **Cold Catarrh :—**

Sneezing, with great painfulness ; he is obliged to try to suppress it, because, when sneezing, he experiences violent stitches in the right side of the chest ; for three weeks.

Sneezing and coryza, (first days).

Coryza with violent tingling in the nose.

Discharge of a quantity of greenish, thickish mucus from the nose.

#### **Chest :—**

Dry and hacking cough, in a child.

Dry cough, as from cachexia, such as old people are affected with, especially early in the morning, when rising, and in the evening when lying down, with stitches into the right side of the chest and right groin ; washing the chest with cold water procured most relief, but the pains increased after drinking wine ; for twelve days.

Cough, with rawness of the throat and pressure of the chest.

Hacking cough, and violent cough, with expectoration, at every cough, of a slight quantity of matter, tasting and smelling mouldy in the evening.

Night-cough.

Cough with expectoration of mucus, especially early in the morning, with pain in the region of the liver, which pain continued until noon, even when there was no cough.

One coughs up a white mucus streaked with blood, which is loosened with difficulty.

When coughing he is obliged to press the right side of the chest and the right groin with his hand ; this makes the pain more tolerable, (first three weeks).

Stitches in the right mamma ; in the region of the nipple ; at every cough, in the evening.

Stitches in the chest, at every cough and deep inspiration.

The breathing is more difficult ; he is obliged to breathe deeply ; this, however, he cannot do, on account of stitches in the chest, (first days).

Every three or five minutes he is obliged to take a quicker and deeper inspiration ; this is always followed by a stitch in the right side of the chest, with a subdued painful sigh, and slow expiration.

Tightness of the chest, with constrictive oppression of the breathing on going up stairs ; he is then obliged to take a deep inspiration, which is always accompanied by an intensely painful drawing stitch into the right side of the chest.

Shortness of breath, after going upstairs, so that he cannot speak a word, and, when he speaks, he has a stitch in the right side of the chest ; he experiences this same symptom when running, and when making a bodily effort which heats him.

Arrest (interception) of breath, when lying in the bed ; he has to jump up and catch breath ; whenever he does this, he experiences a stitch into the right side of the chest.

At every inspiration, stitch into the left side of the chest, as with a knife.

At every attempt at breathing, her chest becomes contracted.

During a deep inspiration there is a sensation as if something rose from the left hypochondrium into the chest with a burning pressure, and then moved down again during the expiration.

A heaviness upon the chest, so that she sometimes is deprived of breath.

Oppressive anxiety in the chest, in the evening, when in bed.

Oppression at the chest.

When stooping while sitting, a pressive squeezing rises into the chest from the pit of the stomach ; the breath becomes intercepted with stitches in the lungs.

Pressure with stitches in the sternum, after dinner, increased

by deep breathing.

Stitches in the chest, when yawning, coughing, or breathing deeply.

Stitches in the chest, as from incarcerated flatulence.

Fine prickings, extending from the back into the chest, in the evening.

Stitches in the left region of the ribs, with soreness in the chest.

Stitches between the ribs of the right side, so painful that he cannot lie upon this side, with intensely painful drawing and interception of breath, which obliges him to snap for breath ; when he lies upon the painful side, the pain immediately rouses him from sleep, (the first four weeks).

Sudden stitches into the right side of the chest, on lifting the arm.

The drawing stitches in the right side of the chest descend into the right groin, where he then feels a violent pain when hiccoughing, sneezing, coughing or gaping.

Drawing pain at a small place in the intercostal muscles, which, when bending over to the left side, is changed to a pain, as from a violent blow in the right intercostal muscles, when he bends over in front, or to the right side.

The pain in the chest becomes more tolerable on pressing the painful spot with the hand.

His chest feels a little relieved when quietly extended upon the back.

The pain in the chest is most relieved when slowly walking about in the room ; he then feels most comfortable.

Weakness of the chest, with dryness of the neck.

Sensation as if the heart were on the right side, and were being squeezed off.

Pain as from having lain upon a hard couch, with soreness to the touch, at night.

Gripping, and, sometimes, stitches in the left mamma, and, when the child has done sucking, she is obliged to compress the mamma with her hand, because it pains her on account of being empty.

Contractive pains in the left mamma, whenever the child sucks at that which is on the right side, (the first days).

The milk in the mamma increases in quantity.

There flows much milk out of the mamma, so that the bed becomes wet.

The milk which flows out of the mamma, becomes cascous, and curdles, (the first days).

**Back :—**

Violent itching and pricking of the os coccygis ; he cannot endure the itching without scratching ; afterwards discharge of slime by the rectum.

Pain in the small of the back when sitting or stooping, as from pressure.

Pain in the small of the back when walking.

Pain in the small of the back, with discharge of much slime during stool.

Dull pain in the small of the back, when stooping.

Dull pressure in the small of the back.

Burning at the small of the back, while sitting.

Pressive pain in the back on both shoulders.

Rheumatic drawing pain in the nape of the neck ; it thence extends into the left shoulder, and then into the scapula, in the evening, when walking in the open air.

**Superior Extremities:—**

An ulcer in the left axilla.

Drawing, tearing pain at the shoulder, and between the shoulders, so that she is not able to stoop for 8 days.

Pricking in the right shoulder for a moment.

Burning pain all round the upper arm, a hand's breadth.

Stitches in the palm of the hand, with sensation in the whole hand as far as beyond the wrist, as if the arm had gone to sleep ; in the evening.

Tearing and breaking in the fore part of the right hand, like rheumatism.

Sensation on the skin of the hands, as if it were covered with cobweb.

Two hard wart-like indurations on the palm of the hand, after it had been beaten rather strongly with a stick.

Itching of the dorsa of the hands here and there, with inducement to scratch, as if the parts had been bitten by fleas.

Throbbing pain in the tip of the thumb, day and night, frequently rousing the person from sleep at night.

Long suppuration of a place under the nail of the thumb, where she had pricked herself with a pin, with painfulness to the touch.

Violent itching of the joints of the back of the fingers ; he is obliged violently to scratch.

Burning heat, and redness of the fingers, even from slight cold, as if they had been frozen.

Pustules with red arcolæ upon the middle finger of the right hand, with swelling and stiffness of the finger, which, even after the pustules had become opened, continued for a long time suppurating and painful.

**Inferior Extremities:—**

Upon one of the nates a corrosive, spreading blister is formed.

Herpes upon one of the nates of the child.

Burning in the thigh of the right leg, near the pudendum, it increases when coughing, and laying the hand upon it.



Burning pain round the left thigh, about a hand's breadth.

Shooting tearing in the right femur, from the middle of the bone downwards, and then again upwards, from morning till noon, and then again in the evening.

In the left leg sense of numbness, with heat

Erysipelatous inflammation and swelling of the left leg and foot, after a good deal of dancing, with tearing, tension, and burning in the leg, and increase of burning pain on touching it; when pressing the leg with the finger, the redness disappears for a moment.

In the foot which had been affected with erysipelas, there was a tension on the dorsum of the foot, so that standing became inconvenient for her; she is not incommoded in walking.

Pain in the joint and the toes of the left foot when setting the foot down, as if something pressed upon the toes.

Stitches in the sole of the foot, occurring in the same manner in two persons.

Sense of heaviness in the feet on going up stairs, in the evening.

Itching of the malleoli.

Pain at the heel, as from soreness consequent on walking.

Suppuration of a spot in the heel, where the rubbing of the shoe had occasioned a wound.

Intensely pressive pain in the big toes, especially the balls, when setting the foot down.

Burning heat and redness of the toes in slight cold, as from being frozen.

Inflammation and itching of the ball of the little toe, as from being frozen.

Inflamed pimple on the back of the little toe, which is painful like a corn.

Frequent stitches in the corns, relieved by pressing upon them, (the first 5 weeks).

**Sleep:—**

Drowsiness at dinner, and deep sleep for two hours.

The child at the breast sleeps more than usually, but wakes up more frequently, (the first days).

Sleepy and tired in the evening.

Early sleepiness in the evening, and long sleep early in the morning, for 4 weeks.

Early in the morning one feels as if one had not slept enough.

Sleepy at twilight, but when he laid himself down, his sleep went entirely off, although he had a good deal of exercise during the day, and had slept but little the night previous.

Wide awake in the evening.

Falling asleep late, and waking up early in the morning.

Disturbed sleep ; she was unable to fall asleep, and tossed about in bed.

Disturbed sleep with thirst and coldness.

Disturbed nights, he was unable to sleep soundly, on account of a rush of blood to the head, uneasiness in the body, rumbling in the abdomen, and diarrhœa, (the first days).

During the night he is obliged to rise several times for the purpose of urinating.

He can sleep only on the left side ; for, as soon as he turns himself to the right side, he is roused from his sleep by drawing and lancinating pains in the intercostal muscles.

He wakes up before midnight, and can not fall asleep before 2 o'clock in the morning.

He woke up at one o'clock at night, and was then no more able to fall asleep, on account of an abundance of ideas, until 4 o'clock in the morning.

Waking up at 3 o'clock early in the morning ; she was then no more able to fall asleep under 2 hours, on account of heat in the whole body, especially in the head, and sweat on the thighs.

He wakes up at 4 o'clock, early in the morning, and is wide awake, so that he goes to his work with cheerfulness.

The child often starts from his sleep with anxious cries, and throws his hands about, seizing things.

A child of five years tosses about, wakes up with screams the whole night, until 4 o'clock in the morning, and in the morning is in a whining mood.

The baby often wakes up with screams, and clings to the mother with anguish, as if it had been tormented by frightful dreams.

Vexatious dreams.

Dream of sore throat and other diseases.

Voluptuous dreams.

She dreams that she is enjoying an embrace, but without any pleasurable sensation.

**Fever :—**

Thrill of cold over the whole body, with throbbing headache in the occiput, as from an ulcer.

Slight chills over the whole body, especially in the back, without any thirst, with flat taste, rough throat, stitches in the chest when breathing, faintishness, paralytic weakness, extension and stretching of the limbs, with contracted, quick pulse ; at the same time heat, heaviness and stupefaction of the head, and burning of the eyes, with sensitiveness of the same to light.

Chills at night, from 2 to 4 o'clock, with tremor, vomiting of food, tearing in the thighs and pain in the femur, as if it were broken ; then heat and thirst after sleep ; at half past 9 o'clock

in the morning bitter vomiting, which was succeeded by sweat with diminished thirst.

Coldness, with headache, and subsequent heat without thirst ; when walking in the open air, the headache ceased ; then she was quite well.

Coldness every other day in the afternoon, with thirst and sleep ; then heat on waking up, with pressive pain in the lumbar region, without any subsequent sweat.

Coldness in the afternoon, from 2 to 6 o'clock ; previously thirst in the forenoon, then heat, until the person went to sleep, with pressive pain in the left hypochondrium.

Coldness immediately after dinner, with more thirst than appetite for dinner, retractive tension round about the hypochondria, and, when breathing deeply, heat which quickly rises into the head ; at 6 o'clock in the evening, heat, which forced him to lie down until 10 o'clock ; then sweat, and after the sweat, thirst ; for 4 days.

Alternately coldness and heat, frequently with sweat in the face, whilst he has thrills of cold over the back, with extension and stretching of the limbs, accompanied by faintishness and drowsiness, so that he is obliged to lie down in the afternoon, without however being able to sleep ; when waking, he merely drags his feet along, and is peevish and taciturn.

Frequent flushes of heat, early in the morning, with nausea and inclination to vomit.

Heat in the head in the evening, when writing, with thirst and a sensation as if sweat would break out.

Heat when she wraps up her hands in the cover of the bed ; but as soon as she puts her hands out, she feels cold.

Heat in the evening, when in bed, accompanied by sweat ; but he feels chilly as soon as he rises.

Sweat during the morning-sleep ; when dressing himself, he feels cold ; he is then affected with a dry cough, with rawness in the chest, as after a cold.

Slight perspiration at night.

**Skin:—**

Unwholesome skin ; small wounds suppurate and ulcerate.

Inclination of old wounds and ulcers to suppurate.

Whitish pimples of the size of the hemp-seed, with red areolæ, on the chest, the neck as far as opposite the nape of the neck.

Erysipelatous inflammation of the leg, accompanied first by coldness, chills and thirst, with vomiting of food and bile, then heaviness in the head and throbbing in the temples, with uneasy sleep at night, resembling slumber, and afterwards bleeding at the nose on the 6th day.

**General Symptoms:—**

Loss of appetite every evening, nausea, drawing in the head from the vertex down into the temples, and drawing in the abdomen towards the groin ; for several days.

Uncasiness in the body, which did not permit him to sit, or to be lying long on the same part of the body.

The baby grows pale, almost livid ; the flesh which was before hard, becomes relaxed and withering ; the baby cries much, loathes the mamma, and often wakes up from sleep with anxious cries, (the first 2 weeks).

Loss of strength in the joints. •

She feels quite weak and powerless.

Weakness, especially in the abdomen and the thighs.

Worn out, weary and indolent, with heaviness in the feet, (the first days).

Formication and tremor of the feet, with nausea and disposition to swoon ; going off in the open air.

After an animated conversation, uncasiness in the body, nausea and stupefaction with vertigo.

While meditating during labor, trembling of the whole body, especially of the hands, with nausea, and with weakness in the knees.

Faint, lazy, peevish, thirsty, after the siesta, with heat when walking in the open air, and sweat on the head and in the face, with obtusion of the head, pressure in the forehead and the eyes, which feel sore when touched ; at the same time inclination to deep breathing, during which there are stitches in the intercostal muscles, with hard, quick pulse.

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[N. B. The reader is requested to look for the *Editorial* after *Charaka Samhitā*. This displacement has been occasioned by a mistake of the printer ; the 4th sheet having been struck off before calculating the number of pages which would be occupied by the pathogenesis of Borax.]

## CLINICAL RECORD.

*A Case of Crocodile-bite ; Recovery.*

REPORTED BY DR. M. L. SIRCAR.

BABOO Srinath Mookerjee, the subject of the above accident, thus narrates it at my request:—"On Saturday, the 3rd. June, at about 9 p. m., as I was bathing in the river (at Khurdah) I felt as if something caught hold of the upper part of my right thigh. To ascertain what it was I placed hands over it, and it felt like a large piece of stone. I was at once convinced that I had fallen into the jaws of a crocodile. Of course I cried out loudly for help, but before any body could come to my rescue I was dragged away to a good distance from the ghat, and twice drowned and lifted up. Fortunately I did not lose presence of mind. I prayed to my God to save me, as I was past all human help and hope. Suddenly the idea flashed to my mind, or rather I recollected that, the only chance of extricating myself from the jaws of my monster-captor was to plunge my fingers into his eyes. No sooner conceived than the idea was carried into effect. My left thumb or finger was at once buried into one of the eyes of the beast who, no doubt from the pang it caused him, at once let go his hold, but not without taking away a piece of flesh from my thigh. I of course lost no time, and swam to the ghat with all my might. I reached the ghat, I suppose in about 3 or 4 minutes. As I sat down on one of the steps, knee-deep in water, a man came down to my assistance. He caught hold of me and dragged me up the ghat, as he perceived the disappointed beast was coming again for a second attack."

The wound was examined and dressed by a medical man who was called in from a neighbouring village.

On the following day, the 4th, hearing of this accident to our friend, I went to see him in company with Babu Rajendra Dutt. The wound was a gaping, lacerated wound, situated in the upper and inner aspect of the right thigh about 2 inches below the groin. The wound was about 6 inches long and about 4 deep. There has been profuse hæmorrhage, but at the time we saw him (2 p. m.) it had stopped. To prevent all chance of further hæmorrhage we ordered *arnica* in mother tincture to be applied as lotion (20 drops to the 3i of water) and the same drug at the 6th dil. to be given internally.

In a day or two the sore assuming a putrid character, *calendula* instead of *arnica* was applied externally. Internally *chin.* 30. He had no fever from the beginning. The wound healed up in about 2 months. He is now (28th Aug.) quite well. The cicatrix is about 4 inches long.

*Remarks.*

The interest of this case lies not so much in the treatment which was simple enough, but in the fact of the gentleman having kept his presence of mind in the midst of danger of such unusual magnitude, and in the peculiar mode in which he extricated himself from the jaws of the monster. This is worth remembering, as it may stand in stead, should such danger ever arise.

*A Case of strychnine Poisoning ; Recovery.*

UNDER CARE OF OMESH CHUNDER MITTER.

On the morning of the 26th June at about 1 a. m. I was called upon to visit a patient, who, I was informed, was suffering from symptoms due to his having taken some poison the nature of which my friend who came to call me, could not distinctly describe to me. On reaching the patient's house I gathered the following particulars from the patient as well as from his friends.

The patient a stout young man, aged about 29 years, of irregular habits, was advised by his friends to take every evening an infusion of hemp leaves ground into a pulp, to enable him gradually to give up his habit of spirit drinking. On the evening of the previous day he had taken the usual dose of the infusion and his dinner at 7 p. m. and at 10-30 p. m. just before going to bed he took about 8 eight grains of strychnine which he had clandestinely obtained from a dispensary which he used to frequent. He was tired of his life and attempted to kill himself. At about  $\frac{1}{2}$  a. m. he began to feel uneasy, and before I saw him at 1 a. m. he had a tetanic fit which lasted nearly 2 minutes. I found him lying on his back with the whole of the muscles of his body in a state of firm contraction, the surface of the body was bedewed with perspiration ; he complained of very great pain all over his body, and the least touch threw him into fits ; he complained of a sense of suffocation. Tobacco water and salt water were tried, but the latter could not bring on vomiting. The former seemed to lessen the fits a little. I left the patient at 3 a. m., and saw him again at 5 a. m. I was told that altogether he had seven fits, the last one took place at 4-30 a. m. There was neither vomiting nor purging ; the muscles of the body were in the same state of contraction ; the sense of suffocation was rather less.

I prescribed an enema consisting of two ounces of castor oil and a pint of warm water, and the following mixture.

R

Chloral Hydrate  $\mathfrak{z}$ iiSyr. Simplic.  $\mathfrak{z}$ iiAqua Puræ  $\mathfrak{z}$ ii M. Ft. Mist.

An ounce every 4 hours and milk and sago for diet ; saw him again at 5 p. m. and found him fully under the effects of chloral ; there had been no more fits since its exhibition ; the bowels had moved twice.

On the 27th June found him at 7 a. m. lying on his back on his bed ; said that he was still feeling a little sleepy ; the muscles were still sore and the lower extremities were rather weak ; he was told not to take any more medicine during the day but to take a dose of chloral at night should he have no sleep ; diet rice, &c.

On the next day he was seen to walk ; the only thing he complained of was a slight drawing forwards of the lower extremities when walking and some pain in the waist.

**Gleanings from Contemporary Literature.****MARRIAGEABLE AGE OF NATIVE GIRLS.***Replies to Babu Keshub Chunder Sen's Circular Letter.*

[FROM DR. NOBIN KRISHNA BOSE.]

I am in receipt of your printed letter of the 1st instant relative to the prevalence of early and premature marriage in this country, and I feel myself highly flattered that you should think my opinion on the subject of value enough to be at the trouble to ask for it.

I have always regarded the custom to be among the principal causes of our physical deterioration as a race and also as a powerful impediment in the way of intellectual advancement and social reform. You will find these views fully set forth in a paper on the importance of physiological knowledge with reference to marriage, education, &c., which I had the honor to read before the Bethune Society in 1855, and which was afterwards published in the *Calcutta Literary Gazette* of that year.

I do not think that climate exerts that degree of influence in modifying the age of puberty in different parts of the world which has been generally ascribed to it. Some difference it will produce, no doubt, but this, on examination, will be found to range within very narrow limits. On studying the age of marriage in different countries at different periods of time, it has appeared to me, on the other hand, that early wedlock has always been the result of ignorance and of general degraded condition of the female sex, and hence at one time it was not unknown even in the latitudes of England and Russia. And the mischief lies in this, viz., that when the practice becomes a marked one, it tends to perpetuate itself by producing precocious maturity among the children in accordance with the organic laws which govern the hereditary transmission of physical and mental qualities.

In this country the custom under notice has prevailed for centuries and generations, and it is not at all to be wondered at, therefore, that our boys and girls should attain to puberty at an earlier period of life than under a healthier system of matrimonial connections they would have done. This is a fact, however, which, in fixing the minimum marriageable age of our girls, should not be entirely overlooked, calculated though it be to give rise to some diversity of opinion on the subject. In determining the age in question, more regard is to be had only to the period of life when, by its anatomical development, the female system is fitted to enter upon the functions and duties of maternity without injury to itself or the physical deterioration of the offspring begotten by it. I should say that our girls should not be married before they have attained, at least, the eighteenth year of their age. Before this period it would not bear with impunity the drain which maternity must establish in it. But considering the modify-

ing influence of the long prevalence of early marriage to which advertence has been made above, it may be doubted, perhaps, whether it would, all things considered, be advisable to fix so high a standard at once. An evil, by long duration, becomes as it were a part and parcel of the system to which it belongs, and cannot be rooted out all at once, without risk and danger to the system itself. In practically dealing with the subject in hand, therefore, it may be necessary perhaps to lower somewhat the above standard of eighteen; and this done, I should, for the present, fix the minimum marriageable age of our females at fifteen, and this the more particularly, as from a social point of view, this standard has a greater chance of being abided by in practice than the higher one of eighteen.

I have only to add that it has given me the greatest pleasure to find that you have taken up this subject in such an earnest and practical manner, and I sincerely hope that your effort may be crowned with success. My only regret is that in my present insular position—at a distance from all centres of social and mental activity—it is not in my power to co-operate with you in the way I would have wished, but still if you think I can be of any help in forwarding the object you have in view, my services are at your command.

*Khundwa, 18th July 1871.*

NOBIN KRISHNA BOSE.

[FROM DR. ATMARAM PANDURUNG.]

I received during the first week a copy of the printed circular letter you have addressed to several eminent medical gentlemen at Calcutta, and I am glad, you have thus given me an opportunity of expressing my views on the matter it refers to. I believe the girls of this country arrive at puberty at the average age of from 13 to 15 years, and in this as in every thing else, they differ but slightly from girls in other countries. In some cases puberty is known to come on as early as 10 years, and in others, so late as 17 or 18 years. In some rare instances the catamenia occur regularly every month from infancy. This difference amongst girls is partly caused by some peculiarity in their individual constitution, but in a large majority of cases chiefly or entirely by social influence—the influence of habits of thought and action which society has on its each individual member. You will then find in all countries in the world, girls living in cities, and especially in very crowded parts of it, and in the lowest strata of society, arrive at puberty at a much earlier age than those living in the agricultural or rural districts and in the upper strata in whom high moral feelings prevail. The custom of premature marriage thereby acting injuriously upon the morals of the people among whom it prevails, has an undoubted tendency to bring an early puberty, and this is strangely mistaken for climate influence. *Climate has no influence in the matter.* The history of our own people in former years, when this pernicious custom had no existence, will



bear me out fully, so that I need not have to point other classes or tribes in this country or other countries, savage and civilized, where the custom of early marriage does not exist, to support the assertion that climate has no influence on the coming on of puberty.

As to your second question, what is to be considered as the minimum marriageable age of girls in this country, it is rather difficult to give a satisfactory reply. If the question had been simply what is considered to be the proper age at which girls ought to marry, the proper answer would be, without any hesitation, 20 years, and there are sound anatomical and statistical reasons. When girls marry at that age, all the ends and aims of marriage are gained with the best of results. There is then less amount of sterility, and also less number of deaths of mothers at their delivery, &c. But it is impossible for any medical gentleman to answer your question in the form you have put it. What one can say is, that puberty is not the best criterion of proper marriageable age, for it is not the period at which development of parts concerned in gestation and delivery is completed; nor is then the mind well adapted for the requirements of the mother in taking proper care of her delicate and tender offspring.

It behoves well-informed and educated people in this country that they should both individually and collectively exert themselves most strenuously to do away with this most pernicious custom of premature marriage by deferring the marriage of their sisters and daughters to as near the age of 20 years as they can, for they would thereby undoubtedly raise the moral, social and physical condition of the people at large. It is their bounden duty to do it, and they must do it.

*Bombay, 24th July, 1871.*

ATMARAM PANDURUNG.

[FROM DR. A. V. WHITE.]

I have the honor to acknowledge the receipt, on the 17th instant, of your letter dated April 1st, asking me to state what I consider to be the age of puberty of Native girls and their minimum marriageable age, and in reply to offer the following observations.

From inquiries I have made on this subject, I have long since come to the conclusion, that, there is a considerable difference, with regard to the period at which menstruation first makes its appearance, between English and Indian girls. Among English girls menstruation occurs more frequently at 15 years than at any other age, while among Indian girls, in the large majority of cases, I believe, it occurs at 13 or even less. The cause of this difference of two years is not so much, in my opinion, the effect of climate, as a difference in the constitution of the two races.

Early marriages, as they obtain in this country have the effect of prematurely rousing the ovaries into a state of activity, and early men-

struation is the result ; but this early menstruation is unaccompanied with the other signs of development or advancing puberty, such as the special growth of the reproductive organs, in conjunction with the general development of the frame and of the mental faculties. This pernicious custom has so long prevailed that it has now become the constitutional habit of Indian girls to menstruate early ; and this habit, I believe, is transmitted from mother to daughter. If Indian girls were not to marry until 16 or 18, I believe that in a few generations this habit would be broken, and a marked improvement in this respect would be observed.

Cases of early menstruation at 10 and 11 years are by no means of very rare occurrence in temperate climates, but they are found among girls who have been brought up in indolence, luxury, or among those employed in our large manufactories, where the influences in operation tend to foster precociousness, and indeed place them in very similar conditions, physically and morally, to those of Indian girls.

Menstruation is no doubt the most important sign of puberty, but when it shows itself early, it is only the sign of commencing puberty, and, in the absence of the other indications, by no means implies that a girl is fitted for marriage and child-bearing. It is not until puberty has been fully established that the minimum marriageable age has been reached, and this rarely occurs, in my opinion, among Native girls before the 15th or 16th year, but if marriages were delayed until the 18th year, the frame would be more thoroughly developed ; the danger of child-bearing would be lessened and healthier offspring would be secured.

*Bombay, July 20th, 1871.*

A. V. WHITE,

*Professor of Midwifery, Grant Medical College.*

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# APPEAL IN BEHALF OF THE HOWRAH GENERAL HOSPITAL.

It has become a matter of absolute necessity that an appeal to the Public should be made in behalf of the Howrah General Hospital.

It was in the year 1856 that it was first proposed to found a General Hospital in Howrah commensurate with the increasing size and requirements of the place. The appeal then made met with great and immediate success. Rupees 14,000 were at once subscribed, and further assistance promised as the work should advance ; and this was fully rendered in due time. Government liberally gave a suitable piece of land, as a site, and, although some delay occurred in commencing the building, a beginning was made in 1858, and on the 7th of May 1861, the Hospital was opened.

Intimately associated with the early history of the institution are the familiar and respected names of Drs. Chevers, Archer, and Charles Palmer.

The superintendence and control of the Hospital, for a long course of years, rested entirely with Dr. Bird, whose name in Howrah is a household word, dear to many.

On reference to the records of the Hospital, I find that, during the ten years which have elapsed since it was first opened, upwards of *one hundred and twenty-eight thousand* patients (Europeans and Natives) have obtained either out-door or in-door relief within its walls. The exact figures are given in the following Statement :—

*Statement showing the Number of Europeans and Natives who have obtained relief (out-door and in-door) in the Howrah Hospital since its foundation.*

| YEARS.                | EUROPEANS. |           | NATIVES. |           | Total.   |
|-----------------------|------------|-----------|----------|-----------|----------|
|                       | In-door.   | Out-door. | In-door. | Out-door. |          |
| 1862 ... ..           | 405        | 2,117     | 664      | 8,144     | 11,330   |
| 1863 ... ..           | 506        | 4,618     | 921      | 7,420     | 13,465   |
| 1864 ... ..           | 650        | 5,368     | 889      | 7,465     | 14,372   |
| 1865 ... ..           | 777        | 5,974     | 690      | 7,057     | 14,498   |
| 1866 ... ..           | 833        | 6,252     | 583      | 8,420     | 16,088   |
| 1867 ... ..           | 634        | 7,415     | 434      | 5,106     | 13,589   |
| 1868 ... ..           | 698        | 5,916     | 493      | 6,984     | 14,091   |
| 1869 ... ..           | 859        | 5,622     | 553      | 7,243     | 14,277   |
| 1870 ... ..           | 673        | 4,131     | 519      | 6,920     | 12,243   |
| To 30th June 1871 ... | 244        | 1,254     | 226      | 3,076     | 4,800    |
| Total                 | 6,279      | 48,667    | 5,972    | 67,835    | 1,28,753 |

NOTE.—The Hospital was opened on the 7th May 1861, but there are no records for the seven and a half months of that year.

It will be seen that since 1862 upwards of 6,200 Europeans have been admitted as in-patients ; and these have been men of all nationalities. So long as there is an empty bed in the Hospital, any European who may apply is admitted, provided he is sick.

These simple facts will perhaps in themselves be sufficient to stimulate the interest and sympathies of all who feel inclined, and have it in their power, to further a great charitable object like the one referred to.

This important institution is now in serious difficulties. Its funds are very low,—lower than they have ever been before. The exact facts are these :—Government grants Rs. 409 a month, for salaries, clothing, &c. ; the East Indian Railway Company liberally gives Rs. 425 per mensem ; the Howrah Municipality gives Rs. 100 a month ; private subscriptions amount on an average to Rs. 150 a month ; and Rs. 467 is, on an average, realized from the cost of the dieting of patients.

The necessary current expenditure, however, is considerably greater than the regular receipts, as will be seen by reference to the following Statement :—

*Statement showing monthly Receipts and Expenditure.*

| RECEIPTS.                     | Amount.               |
|-------------------------------|-----------------------|
| Government ... ..             | 409 0 0               |
| East Indian Railway Company   | 425 0 0               |
| Municipality ... ..           | 100 0 0               |
| Public Subscription ... ..    | 150 0 0               |
| Estimated Cost of Dieting ... | 467 0 0               |
| Total, Rs.                    | <hr/> 1,551 0 0 <hr/> |
| EXPENDITURE.                  | Amount.               |
| Establishment ... ..          | 1,024 0 0             |
| Estimated Cost of Dieting     | 550 0 0               |
| Wine ... ..                   | 100 0 0               |
| Dispensary ... ..             | 30 0 0                |
| Contingent ... ..             | 50 0 0                |
| Furniture and Clothing        | <hr/> 250 0 0 <hr/>   |
| Total Rs.                     | 2,004 0 0             |

There now only remains a reserve Bank deposit of a few thousand rupees (between five and six thousand,) which it has already become necessary to draw upon. Unless this can be retained and supplemented,

it must be exhausted within a few months, and the necessary consequence would be the closure of the Hospital. It can scarcely be supposed that this would ever be allowed to happen. Such an occurrence would be a very serious misfortune to Howrah,—and even, it may be said, to Calcutta, inasmuch as this Hospital may fairly be regarded as a not unimportant auxiliary to the larger institutions on the other side of the river.

Heretofore, the public has always evinced a deep interest in this Hospital and has supported it with a liberality proportioned to its requirements. It has, in the past, been greatly aided, not only by the East Indian Railway Company (whose subscriptions has recently been increased by Rs. 100 a month), but also by the munificence of the Calcutta merchants, who have fully recognized its importance and truly interested themselves in the great objects to which the institution is devoted. I feel sure that the said Calcutta merchants will prove themselves to be no mere fair-weather friends in such a cause, but that they will (even in these hard times) respond, as far as it may lie in their power, to the present appeal. I feel equally sure that valuable assistance may be expected from that earnest advocacy on the part of the Indian Public Press, which is always so readily evinced in all matters affecting suffering humanity. There can indeed be no reason for hesitation in soliciting public support to so thoroughly practical and benevolent an institution as this, where all who come (whether they be Europeans, Eurasians or Natives) are received with sympathy, and treated with care and kindness—an object which must commend itself to all.

It may be noted that the inmates of the Hospital, for the most part, consist of sailors from ships in the Port or from the Sailors' Home, employes of the East Indian Railway Company, their wives and children—(not only from Howrah but from many Stations up the Line); artisans out of employment, and Native residents of Howrah itself or of the interior of the District.

A direct appeal must now be made to the public in behalf of this noble institution. In the name of the Committee, and as Surgeon in charge of the Hospital, it is my duty to solicit liberal subscriptions, both from Europeans and Natives. In consideration of the great advantages which it confers, I do so confidently; and with the simple assurance that all funds received for this object will most certainly be expended carefully, with judgment, and to the advantage and relief of hundreds who are suffering (and in many instances, I regret to add, in destitute circumstances).

It should perhaps be mentioned that, in past years, large sums of money were raised in aid of the Hospital, at the Howrah Fancy Fair, which used to be held annually at the Botanical Gardens, on New Year's Day. In this way, in six years, the sum of Rs. 42,915-6-2 was realized. It will, however, be remembered that a sad accident occurred on the river in the year 1867, whereby some loss of life occurred. Since then the Fancy Fair has proved a financial failure.

In these dull times, when, as we are informed by local newspaper correspondents, little or nothing is stirring, might not a slight stir advan-

tageously be made, both for the amusement of the public, and, at the same time, for the enrichment of the Howrah Hospital Funds?

Will any public spirited and zealous persons take up our cause? Will they get up a Fancy Fair in Calcutta, or elsewhere? or a Ball? or a Regatta? or anything else that will bring in funds for an undoubtedly good object? Will the Ladies of Calcutta be good enough to assist us?

All donations or subscriptions will be received and duly acknowledged in behalf of the Hospital Committee, by the undersigned.

DAVID B. SMITH, M. D.

*Surgeon in charge of the Howrah Hospital.*

*P. S.*—The undermentioned gentlemen have very kindly consented to receive subscriptions in Calcutta. (Perhaps the Editors of Local Papers will be equally obliging):—

Dr. Norman Chevers, Principal, Medical College, Calcutta.

Dr. Charles Palmer, Consulting Physician, Howrah Hospital, No. 6, Middleton Street.

Dr. Fayrer, C. S. I., Consulting Surgeon, Howrah Hospital, No. 42, Chowringhee Road.

Dr. T. E. Charles, No. 10, Harington Street.

Dr. Walter Kei Waller, No. 15, Kyd Street.

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WE have to tender our best thanks to the Editors of the following Periodicals for regularly exchanging with us :—

*The Indian Medical Gazette.*

*The British Journal of Homœopathy* (H. Turner & Co., London).

*The Monthly Homœopathic Review* (H. Turner & Co., London).

*The United States Medical and Surgical Journal.*

*The American Homœopathic Observer.*

*The Western Homœopathic Observer.*

“*The Homœopathic Sun.*” (We have not received this Journal for a long time past.)

*The American Homœopathist.*

*The American Journal of Homœopathic Materia Medica.*

*The New England Medical Gazette.* (The Editor has very kindly sent us this very valuable Journal from its commencement, for which we cannot be too thankful.)

*El Criterio Medico* (Madrid).

*La Reforma Medica* (Madrid).

*La Homeopatia* (Bogota).

*The Indo-European Correspondence.*

*The Hindoo Patriot.*

*The Bengalee.*

*The Indian Mirror.*

*The National Paper.*

*The Bengal Times* (formerly *The Dacca News*).

*The Calcutta Review.*

*The Daily Examiner.*

*Native Opinion* (Bombay).

*The Englishman : Saturday Evening Journal.*

*The Indian Daily News.*

*The Progress* (Tajpore).

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*The Soma Prakasha* (Bengali).

*The Education Gazette* (Bengali).

*The Prayag Duta* (Bengali).

*The Abala Bandhava* (Bengali).

*The Gramvarta Prukashika* (Bengali).

*The Nava Prabandha* (Bengali).

*The Bamabodhini Patrika* (Bengali).

*Ramayanam : Devanagar Text with Bengali Translation* (publishing in series).

We shall be glad to exchange with any Medical Periodical in the world.

Books, &c., for review, to be sent, carriage paid, to the Editor direct.

# चरकसंहिता ।

सूत्रस्थानम् ।

पञ्चमोऽध्यायः ।

गौरवं शिरसःशूलं पीनसार्द्धाविभेदकौ ।

कर्णाक्षिशूलं कासश्च हिक्का श्वासो गलग्रहः ॥ १८ ॥

दन्तदौर्बल्यमास्त्रावः श्रोतोघ्राणाक्षिदोषजः ।

पूतिघ्राणस्य गन्धश्च दन्तशूलमरोचकः ॥ २० ॥

हनुमन्याग्रहः कण्डुः क्षमयः पाण्डुतामुखे ।

क्षेष्मप्रसेको वैस्वर्यं गलग्रण्डुग्रपजिह्विके ॥ २१ ॥

## CHARAKA SAMHITA.

### CHAPTER 5 (Continued).

19. Heaviness of the head, headache, inflammation of the Schneiderian membrane, hemicrania, otalgia, ophthalmalgia, cough, hiccup, asthma, hoarseness,

20. Weakness (looseness) of teeth, waterbrash (or salivation), discharges from the ear, eye, and nose, fetid smell in the nose, odontalgia, anorexia,

21. Lock-jaw, stiff-neck, itching, worms, paleness of the face, mucous discharges, alteration of voice, diseases of the uvula and of the epiglottis,



खालित्वं पिञ्जरत्वञ्च केशानां पतनमनया ।

अथयुष्मापितन्द्रा च बुद्धेर्भोशोऽतिनिद्रता ॥ २२ ॥

धूमपानात् प्रशाम्यन्ति बलभावति चाधिकम् ।

शिरोरुक्कपालानामिन्द्रियाणां स्वरस्य च ॥ २३ ॥

न च वातकफात्मानो बलिनोऽप्यर्ज्वजतृजाः ।

धूमरक्तकपालस्य व्याधयः स्युः शिरोगताः ॥ २४ ॥

प्रयोगपाने तस्याष्टौ कालाः सम्प्रकीर्त्तिताः ।

वातश्लेष्मसमुत्क्रेशः कालेष्वेषु हि लक्ष्यते ॥ २५ ॥

स्नात्वा भुक्त्वा समुत्थित्य दृत्त्वा दन्तान्विशोथ्य च ।

लावनाञ्जननिद्रान्ते चात्मवान् धूमपो भवेत् ॥ २६ ॥

22. Morbid baldness, reddish yellow color and falling off of the hair, sneezing, sleepiness (lassitude, languor), dulness of the understanding, coma,—

23. These are relieved by the inhalation of the smoke (above recommended), which also strengthens (improves) the hair, the forehead, the senses and the voice.

24. Of him whose forehead has become red from smoking (i. e. who is in the habit of smoking), the parts above the clavicle including the head will never become subject to disorders originating in the wind and the phlegm.

25. The times for smoking have been determined to be eight. These are the times when the wind and the phlegm are in excess.

26. After bathing, after eating, after vomiting, after sneezing, after brushing the teeth, after taking snuff, after smearing the eyelids with collyrium, after sleep, the prudent will smoke.

तथा वातकफात्मानो न भवन्तूर्ध्वचक्षुजाः ।

रोगास्तस्य तु पेयाः स्मुरापानास्त्रिस्तवस्तयः ॥ २७ ॥

परं द्विकालपायी स्यादङ्गः कालेषु बुद्धिमान् ।

प्रयोगे सैहिकेत्वेकं वैरेच्यं त्रिस्तवुः पिबेत् ॥ २८ ॥

हृत्कण्ठेन्द्रियसंशुद्धिर्लाघवं शिरसः शमः ।

यथेरितानां दोषानां सम्यक्पीतस्य लक्षणम् ॥ २९ ॥

बाधिर्यमान्द्यं मूकत्वं रक्तपित्तं शिरोभ्रमः ।

अकाले चातिपीतस्य धूमः कुर्यादुपद्रवान् ॥ ३० ॥

तत्रेष्टं सर्पिषः पानं लावनाञ्जनतर्पणम् ।

सैहिकं धूमजे दोषे वायुः पित्तानुगो यदि ॥ ३१ ॥

27. And as a consequence of such practice, the parts above the collar-bone will be free from diseases of the wind and phlegm. The smoke should be inhaled thrice each time and this should be repeated three times.

28. But of these eight times, *práyogika* (daily) smoke should be inhaled only twice in the day, the *suaihika* (cooling) only once, and the *virrechaka* (evacuant) only 3 or 4 times.

29. The symptoms (results) of proper inhalation are the clearance of the chest, of the throat, and of the senses; the lightness of the head and the harmonization of the excess of the disorders (of the bile, phlegm, and wind).

30. If inhaled in improper time or in excess, it gives rise to the following disorders—deafness, blindness, dumbness, hæmatemesis, vertigo.

31. In disorders arising from such inhalation, where there is excess of the bile and wind (the latter being only just less

शीतन्तु रक्तपित्ते स्वात् श्लेष्मपित्ते निरुक्षणम् ।

परन्वतः प्रवक्ष्यामि धूमो येषां विगर्हितः ॥ ३२ ॥

न विरिक्तः पिवेद्धूमं न क्षतेवक्षिकर्मणि ।

न रक्ती न विघ्नेषां र्त्तो न शोचन्न च गर्भिणी ॥ ३३ ॥

न अमे नमदे नामे न पित्ते न प्रजागरे ।

न मूर्च्छाभ्रमल्लणास् न क्षीणे नापि च क्षते ॥ ३४ ॥

न मद्यदुग्धे पीत्वा च न स्नेहं न च माक्षिकम् ।

धूमं न भुक्त्वा दध्ना च न रुक्षः क्रुद्ध एव च ॥ ३५ ॥

than the former), the drinking of ghrita, and the use of oily snuff, collyrium, and tarpana (which means filling the eyes with oil, &c.) are attended with benefit.

32. When there is disorder of the blood from excess of bile, the cooling snuff, collyrium and tarpana should be used, and when there is excess of phlegm, the dry ones should be used.

And now I shall speak of those who should not inhale the smoke above described.

33. Those who have taken purgatives should not inhale smoke, nor those who have taken injections, nor those who have disorders of the blood, nor those who are suffering from poisoning, nor those afflicted with grief, nor pregnant women ;

34. Nor after labor, nor after intoxication, nor those who have mucous fluxes, nor those who have excess of bile, nor after keeping up nights, nor those who are subject to faintings, vertigo, nor after thirst, nor those who are weak, nor those who have ulcers inside the chest ;

35. Nor after drinking wine or milk, nor after drinking oily substances, nor after drinking honey, nor after taking rice with curd, nor those who are dry skinned, nor after anger ;

न तालुशोषे तिमिरे शिरस्त्रभिहिते न च ।

न शङ्खके न रोहिष्णां न मेहे न मदात्मये ॥ ३६ ॥

एषु धूममकालेषु मोहात्प्रवति यो नरः ।

रोगास्तस्य प्रवर्द्धन्ते दारुणाधूमविभ्रमात् ॥ ३७ ॥

धूमयोग्यः पिवेद्दोषे शिरोप्राणाक्षिसंश्रये ।

प्राणेनास्येन कण्ठस्थे मुखेनप्राणपोवमेत् ॥ ३८ ॥

मुखेनधूमकवलान् पिवेत् प्राणेन नोवमेत् ।

प्रतिलोभं गतो ह्याशु धूमो हिंस्याद्वि चक्षुषी ॥ ३९ ॥

ऋज्वङ्गचक्षुस्तर्ज्जिताः स्तूपविष्टस्त्रिपर्ययम् ।

पिवेच्छिद्रं पिधायैकं नासया धूममात्मवान् ॥ ४० ॥

36. Nor when there is dryness of the fauces, nor when there is amaurosis, nor when there is injury of the head, nor when there is pain and heat and swelling of the temples, nor when there is inflammation of the throat (tonsilitis?), nor in disorders of the urine, nor in disorders resulting from drinking.

37. He, who, through ignorance, inhales smoke under these circumstances and thus untimely, will have serious disorders that arise from misuse of the smokes.

38. Those who are thus fit to inhale smoke should inhale it through the nostrils in case of disorders of the head, nose and eyes; but in case of disorders of the throat should inhale it through the mouth. When inhaled through the nostrils, the smoke should be let out through the mouth.

39. But inhaled through the mouth, it should not be let out through the nostrils. For if it escapes through other channels (i. e. gets high up) it is sure to injure the eyes.

40. The smoke should be inhaled (by the mouth) well (squarely) seated, with the body and eyes straight, and the mind fixed

चतुर्विंशतिकं नेत्रमङ्गलैः स्वैर्विरेचने ।

द्वाविंशदङ्गलं स्नेहे प्रयोगेऽतोर्द्धमिष्यते ॥ ४१ ॥

ॐ त्रिकोषाकलितं कोलास्थ्यग्रप्रमाणितम् ।

वक्षिनेन समं द्रव्यं धूमनेत्रे प्रशस्यते ॥ ४२ ॥

दूराद्विनिर्गतः पर्वच्छिन्नो नाडीतनूकृतः ।

नेन्द्रियं बाधते धूमो मात्नाकालनिषेवितः ॥ ४३ ॥

यदा चोरश्च कण्ठश्च शिरश्च लघुतां व्रजेत् ।

कफश्च तनुतां प्राप्तः सुपीतं धूममादिशेत् ॥ ४४ ॥

अविशुद्धः स्वरौ यस्य कण्ठश्च सकफो भवेत् ।

क्षिमितो मस्तकश्चैवमपीतं धूममादिशेत् ॥ ४५ ॥

(towards the smoke). When it has to be inhaled by the nose, the intelligent should close up one nostril and inhale with the other.

41. The pipe for evacuant smoke should be (one's own) 24 finger's breadth long ; that for the oily smoke 32 and that for prāyogika or daily smoke 48.

42. The pipe should consist of these straight limbs, of which the first should have the diameter of a plum for its calibre. The pipe should be made of the same materials as are used in making enema pipes.

43. The smoke, which is emitted from a distance and divided by the (three) limbs and attenuated by the pipe and inhaled in proper time and in proper quantity, does not injure the indriyas (the organs).

44. The smoke is said to be inhaled in due time and quantity, if by it the chest, the throat and the head are lightened and the phlegm rendered loose and thin.

45. When the voice is not clear, the throat is full of phlegm,

तालु मुष्टा च कण्ठश्च शुष्यते परितप्यते ।  
 लप्यते जृम्भते जन्तूरक्तश्च खवतेऽधिकम् ॥ ४६ ॥  
 शिरश्चक्षुर्मतेऽत्यर्थमूर्च्छा चास्योपजायते ।  
 इन्द्रियाण्युपतप्यन्ते धूमेऽत्यर्थं निषेविते ॥ ४७ ॥  
 वर्षे वर्षेऽनुतैलश्च कालेषु त्रिषु नाचरेत् ।  
 प्राट्शरद्वसन्तेषु गतमेघे नभस्तले ॥ ४८ ॥  
 नस्य कर्म यथाकालं यो यथोक्तं निषेवते ।  
 न तस्य चक्षुर्नघ्राणं न श्रोत्रमुपहन्यते ॥ ४९ ॥  
 न स्युः श्वेता न कपिलाः केशाः श्मश्रूणि वा पुनः ।  
 न च केशाः प्रलुच्यन्ते वर्धन्ते च विशेषतः ॥ ५० ॥

and the head is dull (unsteady) then the smoke has not been properly inhaled.

46. Dryness and inflammation of the palate, pharynx, and throat, increase of thirst, yawning, profuse hæmorrhage,

47. Great vertigo, fainting, pain in the senses,—these are the results of excessive inhalation of smoke.

48. In the rainy season, in autumn or the sultry season following the rainy, and in spring, when the sky is cloudless, *anutaila* should be used.

49. He who uses snuff (of oil) in due time and as directed, will never have any defect in his eyes, nose, and ears.

50. The hair and the beard of such a man will never become brown or white; nor his hairs will fall off, on the contrary they will grow better.

मन्यास्तम्भः शिरःशूलमर्हितं हनुसंग्रहः ।

पीनसार्द्धावभेदौ च शिरःकम्पश्च शाम्यति ॥ ५१ ॥

शिराः शिरःकपालानां सन्धयः स्नायुकण्डराः ।

लावन प्रिणीताश्चास्य लभन्ते,अधिकं बलम् ॥ ५२ ॥

मुखं प्रसन्नोपचितं स्वरः स्निग्धः स्थिरोमहान् ।

सर्जैन्द्रियाणां वैमल्यं बलम्भवति चाधिकम् ॥ ५३ ॥

न चास्यरोगाः सहसा प्रभवन्त्यूर्ध्वजलुजाः ।

जीर्यतश्चोत्तमाङ्गेषु जरा न लभते बलम् ॥ ५४ ॥

51. Stiff-neck, headache, hemiplegia (or facial paralysis), lock-jaw, coryza, hemicrania, trembling of the head, these too are relieved (or remedied) (by snuff of oil).

52. The vessels (small and large), the sutures, and the nerves of the skull, being moistened by the snuff, will acquire strength.

53. The face becomes bright and full, the voice becomes smooth, steady, and deep. The organs become all purified and strengthened.

54. In such persons, the parts above the clavicle, do not easily become affected by disease. Even in advanced age the hairs do not turn grey.

(To be continued).

## DR. CUNINGHAM'S REVIEW OF LOCAL SANITARY REPORTS FOR 1869.

OUR position in reference to the task we are about to undertake, is a peculiarly false one. It is one of the most important functions of a Medical Journal to deal with facts connected with local sanitation. In the present condition of India, such information can be best collected by Government alone, and it can by no means be pronounced that Government have not done much in this direction, at least in recent years. A body of medical officers has been appointed to look exclusively after the sanitary condition of the country, and large sums of public money are being spent not only in pay and travelling allowances, but also in printing the reports, of these functionaries. These reports, while they are largely distributed amongst the editors of newspapers and nonprofessional journals, seldom reach our hands. Our repeated efforts to obtain copies of them have proved a failure. The Bengal Government and the Home Department of the Government of India furnish us with some of these reports by fits and starts, and though in courtesy we are bound to thank them for such favors, we are equally bound to say that such fitful favors are hardly of any use to us. We cannot abstain from turning our attention to Indian sanitation, and yet the stray papers with which we are favored give only a side view of the subject. For one engaged in the pursuit of science, nothing can be more culpable than to generalize upon partial facts, or even to offer comments upon matters very partially known. We do not see why the Government should place us in such an uncomfortable position, and deprive us of a favor that is very liberally distributed at the public expense.

In the present case, we have before us Dr. Cuninghams' Review of the local sanitary reports for 1869, and only one of these reports, namely, that for Bengal; but unfortunately as little or no use has been made by Dr. Cuninghams of the Bengal report, we are obliged to confine ourselves to the review itself. The first point noticed by Dr. Cuninghams is a want of uniform plan for the preparation of the reports; and he very justly states that it is this want of uniformity which prevents a proper comparison of the works of the different commissioners, and



which has a tendency therefore to arrest that progress of sanitary science, which an extensive survey of results in a sufficiently wide area can alone promote. We regard it then as a fortunate circumstance that the Government of India called upon Dr. Cunningham to submit a general review of these various reports. When the local Sanitary Commissioners were first appointed, they were very properly placed under the immediate control of the local Governments. But the Government of India omitted to insist upon the preparation of the annual reports on a uniform plan, and this want of uniformity would have doubtless continued to exist for an indefinite time, had it not been animadverted upon so pointedly by Dr. Cunningham. As it is, full three years have passed away, and a large outlay of public money has been incurred, without adequate results. The effect of this oversight has been most particularly felt in Bengal, where the local Government took it into its head to issue instructions for the preparation of the annual report, so very different from those of the other provinces, as to oblige Dr. Cunningham to omit Bengal virtually from his general review. This circumstance could not have been unknown to Dr. Cunningham, and it was due to Dr. Smith, that it should be mentioned.

Dr. Cunningham has divided his review into six heads,—(1) vital statistics, (2) history of each of the chief diseases of the provinces, (3) meteorology, (4) the general condition of the people as influenced by any deficiency in the crops, or by the unusually high price of food, (5) the personal investigations and proceedings of the Sanitary Commissioners, and (6) sanitary progress during the year. The information collected under the first head is simply the number of deaths from the chief diseases occurring every month. Dr. Cunningham's remarks in reference to this point are just :—

The difficulties which have to be contended with in carrying out any such system in India are but little understood and appreciated by those who have had no experience of the country and whose ideas of registration are derived from what has been done in Great Britain. The vast area embraced in each Province, the millions of people to be included in the registration, the fact that in many Districts, each of which is larger than a county of England, and many of them as large as several counties put together, there is generally but one educated medical officer who could

accurately certify to the cause of death in any case, and the want of proper machinery for registration, are all obstacles of no small magnitude ; and, regarding what has been effected in relation to these difficulties, I am rather astonished at what has been done than disappointed at the errors and omissions. The system is yet in its infancy ; it is new to the people, and, until they in some degree understand its aim and objects, they will not render that willing assistance which is indispensable to its success.

In addition to the inaccuracies discoverable in these statements, it seems to us that the information collected is insufficient for the purpose which vital statistics are usually intended to subserve. The object of these statistics is to shew the progress of the chief diseases which break out in the country, and the degree of virulence with which they prevail in the different localities. This object can never be secured in a proper way unless a comparison is drawn between the number of persons attacked, and that of the deaths taking place in consequence. As arrangements are now being made for obtaining the second element of comparison from the heads of families in the country, we do not see what difficulty there can be in obtaining the other from the same source. Again, as the figures thus collected can be at the best but a very distant approximation to the truth, their value can never be considered high for purposes of science.

The next topic is the history of the chief diseases during the year. With due deference to Dr. Cunningham, we beg to state here, that what he has furnished under this head is not a history, properly so called, of the diseases—the way, that is, in which they break out, the manner of their dissemination, the general conditions of the patients, the peculiarities of the localities attacked, &c., &c.,—but a simple enumeration of the places in which they prevailed, their waxing and waning according to seasons, and the rates of death brought about by them, together with a criticism of the opinions or theories of the local officers about their origin.

The prevailing diseases of the year 1869 are stated to have been cholera, small-pox, and fevers. As regards cholera, we regret to find that there are several medical officers yet—and amongst these the Sanitary Commissioners of the Punjab and the Central Provinces—who have not been able to submit themselves entirely to the patient investigation of the facts before

them, unhampered by foregone conclusions; but who still continue fondly to give their adherence to some pet theory, who twist and turn facts in order to support the same, are averse to look at facts which tend to a different conclusion, and are content with vague generalizations, which they surround with a halo of scientific terms. It is difficult to imagine whether there can be a greater obstacle to the discovery of scientific truths, than this habit of the mind. We are glad therefore to find that Dr. Cunningham has devoted a great portion of his report to an examination of the statements which have been made by Doctors DeRenzy and Townsend in support of the human agency theory.

The great fault of these theorists lies in their habit of embracing, with a sort of triumph, facts which seem to support their views at first sight, without that careful and laborious examination of all the bearings of such facts and of those of collateral influences upon them, which alone can distinguish instances which are really similar from those which seem to be so. In engaging himself in this controversy, Dr. Cunningham has very properly taken up some of the particular instances, which were cited by the supporters of the human agency theory, and has shewn how facts which really belong to the second of these two classes, have been erroneously believed to appertain to the first. He has also endeavoured to point out the right method of conducting scientific investigations with the view of discovering general laws. But in this attempt he has met with only a partial success. The best way to induce visionary theorists to abandon their metaphysical or abstractional modes of thought, is to shew clearly the process by which a generally acknowledged law has been discovered in a cognate branch of knowledge, and then to point out the failures which have actually taken place in the very branch or subject under investigation, in the endeavour to pursue that process or method, and to shew, for instance, how the process of elimination has not been sufficiently carried out at every step, how the similarity of the different cases cited in support of the theory, has not been carefully traced, how in fact the inseparable link which binds an effect to a cause, has not been sought for. We readily acknowledge that this undertaking is beset with difficulties on all sides, but unless these are thoroughly comprehended by our medical men, it is next to useless for them to conduct the investigations

they are entrusted with. We are accordingly inclined to think that no one should be allowed to enter at least the higher walks of the medical profession, unless they shall have passed a searching examination in inductive logic. We may state here in passing, that of the two sanitary commissioners who believe in the spread of cholera by human agency, Dr. Townsend is more sparing in the promulgation of haphazard conclusions, and more disposed to prefer a searching investigation to the more indolent process of resting satisfied with partial facts, and of leaving opinionativeness to do the work of enquiry.

Dr. Cunningham states that "the action of the Government of India in regard to cholera has never, in the slightest degree, been influenced by any theoretical views." This statement cannot be accepted without some modification. If some of the local Sanitary Commissioners manifest a little too much leaning towards pet theories, the Sanitary Commissioner to the Government of India is not altogether free from the fault. Witness for instance his recommendation for the removal of troops into camps, on the occasion of the breaking out of cholera among them. This recommendation, he says, "rests on no theory but simply on the experience of a series of years." But we doubt very much whether this so called experience has not a little of theory in it. In the previous numbers of this journal we have had occasion to make comments on some of the instances which he had cited to prove the efficacy of movements, but in none of them could we find satisfactory proofs for the same. Our experience on the subject is chiefly confined to Lower Bengal, where cholera is said to be endemic. Even here the disease breaks out at times in particular localities. At the commencement it assumes a very virulent character, which abates gradually, until the disease disappears from the locality, by itself as it were. The period of incubation, and the period during which the disease continues, are different at different times, and seem to be apparently bound by no law. And from what we have read of the disease, we find that the same is generally the case elsewhere. How can the efficacy of movements be then determined? If on the breaking out of cholera troops are removed to a locality having better hygienic advantages, as these are generally understood, we can accept the course; but even if the movement be followed by beneficial consequences, we would not know exactly

what to attribute them to—hygienic advantages or the peculiarity of the disease just noticed. Again, to be satisfied with the efficacy of movements, we must have such cases before us, where a portion of the troops move into camps, and a portion remain in the barracks, care being taken that the hygienic advantages of both the places are equal; and we must have carefully collected statistics of these two divisions, separately shewn. We are not aware of any instances in which Dr. Cunningham has shewn such proofs as we have indicated. And unless this is done, we can by no means say that the efficacy of movements is based upon experience.

The recommendation of Dr. Cunningham that “the Sanitary Commissioners should refrain from criticising the views which may be held by other officers in the same department,” ought always to be borne in mind. By this he does not apparently mean to put a stop to all discussions. A calm and judicious examination of the different theories on any subject for the purpose of eliciting truth, is seldom attended with any injurious consequence. It is only when a discussion assumes the shape of a personal controversy, and when it is calculated to evoke rancorous feelings towards each other, that criticisms are calculated to produce the harm which Dr. Cunningham apprehends. We can perceive no evil in a simple review of each other’s opinions or theories. Such a course may not to be resorted to by the local Sanitary Commissioners amongst themselves. But when they happen to differ in opinion from the Sanitary Commissioner to the Government of India, we do not see why they should abstain from examining the grounds on which the views of the latter are founded. Such an examination, if conducted in a calm and impartial spirit, may often be attended with beneficial results. We hope the new Secretariat under the Government of India will direct its attention to this question, and give a clear solution to it. We believe Dr. Cunningham entertains the view advocated above, but he seems to have omitted to set it forth in the clearest terms possible.

The following is the conclusion of Dr. Cunningham on the subject of cholera :—

The strongest supporters of the doctrine that cholera is spread by human agency, or by human agency alone, such as Dr. DeRenzy and Dr.

Townsend, fully admit the impossibility of adopting quarantine. All are persuaded of the value of a pure water-supply, and the argument in favor of this essential requisite of health is in no degree strengthened, indeed it is rather weakened, by the theoretical assumption that cholera will attack any community with violence only when that water contains cholera discharges. The practical lesson of the epidemic is the same as that which has been taught by all former epidemics, general sanitary improvement, or, as Dr. Planck has well stated it, "the improved sanitation of the Province generally, and especially of the principal centres of population."

As regards small-pox, it raged with rather unusual virulence in 1869, especially in the Punjab and the North-Western Provinces. This epidemic is deserving of as much attention as cholera and fevers, and a special agency has for a long time been employed to arrest its ravages. Yet of the three classes of diseases, the treatment of small-pox in the review under notice is the least satisfactory. The subject is deserving of special attention from Government. The fact which calls for particular notice is the check of the outbreak at Dacca, Kumaon and Ghurwal. The escape of these places is attributed to the protective power of vaccination, but the details of the operation have been left out. And yet these details are essentially necessary, at least for the guidance of those vaccine officers in whose circles the mortality was fearful.

Dr. Planck of the North-Western Provinces has noticed that deaths from small-pox always commence and increase in the cold-weather months, and he attributes it to the practice of inoculation which is carried on during those months. Dr. Cunningham has shewn the fallacy of this inference, by pointing out localities where inoculation is hardly resorted to, and yet where the spread of the disease is well-known. Before attempting any explanation of this kind, it should first of all be ascertained whether the fact observed by Dr. Planck holds universally, or whether it is merely a local peculiarity. It may be stated here that Dr. Townsend is inclined to believe that in the Central Provinces, "the course of an epidemic of small-pox is, to a great extent, parallel with that of an epidemic of cholera, and that a water-supply impregnated with animal matter, which in his opinion regulates the violence of cholera, aggravates the effects of the contagion of small-pox, and renders it more deadly in its operation." In the absence of direct proofs, this observation cannot be considered as any thing more than an accidental coincidence. The remaining portion of the review will be noticed in our next.

## THE HOWRAH GENERAL HOSPITAL.

WE publish elsewhere Dr. D. B. Smith's "Appeal" in behalf of the above Hospital. We should feel sorry if the appeal would meet with no response from the well-to-do people of Calcutta. As Dr. Smith has rightly observed, the Howrah Hospital is a not unimportant *auxiliary* to similar institutions of Calcutta. If the hospital is closed, the tide of patients that now obtain relief in it would have to flow back to Calcutta, and then the burden (if charity is a burden) would have to be borne by our millionaires. So that any assistance that the citizens of Calcutta would render to the General Hospital of Howrah would be tantamount to rendering assistance to the hospitals of Calcutta itself. Besides, we should look upon Howrah as part and parcel of Calcutta, not only because of its being the main railway station, whereby it has become the grandest centre of communication with all India, but also because it is becoming, from its daily increasing importance, the medium of communication with the immediate interior. Such being the importance of Howrah, affording such facility to the trade of Calcutta, it has a right to be looked upon as an integral part of the capital. The inhabitants of Calcutta are therefore morally bound to look to its wants. And what want is of more urgent importance and more loudly calls for help than disease? But we think, we have been expending our argument in vain. The appeal in behalf of the Howrah General Hospital needs no argument to back it, nor do the good people of Calcutta require to be stimulated to works of philanthropy.

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THE MATERIA MEDICA.

19.—BRYONIA ALBA.

*Nat. Ord.*: Cucurbitacæ. It is the *Bryonia alba* which was proved and used by Hahnemann. In the British Homœopathic Pharmacopœia, two species of *Bryonia*, the *alba* as well as the *dioica*, are recommended to be used.

*Habitat*: *Bryonia alba* is common in Germany and France, *B. dioica* in England, in hedges and thickets.

*Off. Part*: The fresh root, gathered before the plant flowers, which is in June and July.

\* *Preparation*: Tincture with proof spirit.

*Old School Uses*: None, at least in the present day. In Lindley's *Medical and Economical Botany*, we have under *Bryonia dioica* only the following: "*Quality*.—emetic, purgative, acrid, poisonous. *Uses*.—Root applied topically to bruises." Beyond this we have not met with in any old school *Materia Medica* any mention of this important medicinal plant.



*Pathological anatomy.*

Wide-spreading inflammation and suppuration of the skin (from external application).

Intense redness of the outer surface of the stomach; vivid redness of the mucous membrane of the stomach, dotted with blackish spots here and there, which are not ulcerated anywhere; the mucous membrane of the stomach is cherry-red throughout.

Inflammation of the commencement of the duodenum.

Considerable inflammation of the larger intestines, whereas the remaining portion of the intestinal canal exhibits scarcely any signs of inflammation.

The inner coat of the rectum is cherry-brown.

Slightly reddened lungs, containing fluid blood; the lungs are reddish, crepitating but little, and containing a considerable quantity of blood.

The heart is distended with a large quantity of partly coagulated, partly fluid blood.

Coagulated blood in the cavities of the heart.

*Concordances.*

*Moral and intellectual faculties.*—BELL. calc. hyosc. lyc. natr.-mur. n-vom. op. RHUS. sep. stram.

*Seat of the diseases.*—Acon. Arn. ARS. aur. BELL. bor. CALC. canth. carb-veg. caust. CHAM. chin. con. creos. dig. graph. hep. hyosc. ignat. kali. lyc. MERC. natr. natr.-mur. nitr-ac. N-VOM. petr. phosph. ph-ac. plumb. PULS. rhus. sabad. SEP. SIL. spig. staph. SULPH. VERATR. zinc.

*Morbid states and sensations.*—Acon. Arn. ars. asaf. BELL. CALC. canth. carb-veg. caust. cham. chin. con. graph. ignat. kali. LYC. MERC. mezer. natr.-mur. nitr-ac. N-VOM. PHOSPH. PULS. RHUS. SEP. sil. spig. stront. SULPH.

*Glands.*—BELL. calc. con. lyc. merc. PHOSPH. puls. rhus. SULPH.

*Bones.*—Arg. asaf. bell. calc. chin. eupr. cycl. ignat. lyc. MERC. mezer. nitr-ac. phosph. ph-ac. puls. rhodod. RHUS. ruta. sabin. sil. STAPH. SULPH. thuj.

*Skin.*—Acon. ant-crud. Arn. ARS. asaf. bar. bell. calc. caust. chin. cic. con. graph. hep. ipec. kali. lach. led. LYC. merc. mezer. natr.-mur. n-vom. phosph. PULS. RHUS. sep. SIL. sjng. spong. staph. SULPH. viol-tr.

*Sleep and dreams.*—Acon. ant-tart. ars. bell. calc. canst. chin. cic. con. croc. hep. IGNAT. lyc. m-arct. magn. merc. natr. n-mosch. N-VOM. OP. PHOSPH. ph-ac. PULS. RHUS. sabad. sep. sil. SULPH.

*Pyrosis.*—Acon. ARS. bell. calc. cham. chin. dig. ferr. graph. hep. hyosc. jod. ipec. kali. LYC. merc. natr.-mur. N-VOM. PHOSPH. ph-ac. PULS. rhus. SEP. sil. spig. stram. SULPH. veratr.

*Time.*—Bell. lach. lyc. puls.

*Exacerbations.*—Acon. Arn. ars. BELL. CALC. caps. carb-veg. caust. cham. chin. coec. colch. coloc. con. hep. hyosc. ignat. ipec. kali. led. LYC. natr. n-vom. op. phosph. PULS. RHUS. sabin. SEP. sil. spig. stram. SULPH. veratr.

*Concordances in general.*—Acon. Arn. ars. asaf. BELL. CALC. canth. carb-veg. caust. cham. chin. con. graph. hep. hyosc. ignat. ipec. kali. LYC. MERC.

mezer. natr. ~~natr.~~ mur. nitr-ac. n-vom. op. ROSPH. ph-ac. PULS. RHUS. SER. sil. spig. staph. stram. SULPH. verat.

*Antidotes.*—*Acon.* alum. *camph.* *cham.* clem. *coff.* ignat. mur-ac. n-vom. puls. *rhus.* seneg.

Dr. Hughes makes the following excellent comparisons:—

“From its extensive range, *Bryonia* cannot but have many analogues. In its relation to rheumatism, it compares with *Aconite*, *Rhus*, and *Pulsatilla*; in fever it acts like *Baptisia* and *Eupatorium*. It affects the serous membranes like *Aconite*, *Arsenic*, and *Mercurius Corrosivus*; the synovial membranes like *Pulsatilla*; the alimentary canal like *Nux* and *Lycopodium*; the liver like *Mercurius* and *Chelidonium*; the air-passages like *Nux* and *Senega*; the lungs like *Phosphorus*, *Chelidonium*, and *Tartar emetic*.”

### *Hahnemann's Preface.*

A large dose of this drug acts a couple of weeks.

Many of the effects of *Bryonia* are analogous to those of *Rhus tox*.

*Bryonia* affects the mind differently from *Rhus*; the fever of *Bryonia* is mostly composed of the cold stage, and its symptoms are chiefly excited or aggravated in motion, although the secondary effects of *Bryonia* of relieving symptoms by motion, are not altogether rare.

It is for this reason that even in cases where *Bryonia* was indicated and had been exhibited in a proper dose, it does not always produce the desired effect in the first 24 hours; the existing symptoms constituting the series of the secondary effects of *Bryonia*, a second dose had to be given (which, when given immediately after the first, neutralizes in part the effects of the first dose of any remedy), which would bring the true primary action of *Bryonia* to bear upon the case before us as the truly homœopathic and therefore curative principle. This peculiarity is witnessed in a few other drugs (see the preface to *Ignatia*), but rarely in *Bryonia*.

*Rhus* generally relieves the injurious effects of an injudiciously administered dose of *Bryonia*; or else some other remedy, which is homœopathic to the untoward symptoms. Camphor, for instance, above all other drugs.

The curative powers of *Bryonia* are very comprehensive, as may be seen from the vast series of its symptoms. It will be found very useful in some fevers, and in some kinds of abdominal spasms of the other sex.

In violent, acute diseases, characterized by a high irritability of the system, a pellet of the 30th potence will be found sufficient for the cure. In a very few cases a full drop of the 30th potence may be necessary, but never a drop of the tincture. I have learned this gradually by experience.

*Pathogenetic Symptoms.*

**Mind:—**

Apprehensions, doubts.

(Doubt about one's recovery, with fear of death.)

Anxiety through the whole body, it impelled him to undertake something all the time ; he had no rest anywhere.

Irritable mood, disposed to fright, fear, and liability to be put out of humor.

Ill-humored, and inclined to be angry.

Wrathful, ill-humored, and disposed to weep.

Ill-humoured ; imagined she would not get through her work ; took hold of the wrong piece ; inclined to change pieces all the time ; afterwards a pressing ache in the forehead.

She inclines to undertake too much, and to work at too many things at the same time.

Violent discouragement, not disposed to think, depression of the intellectual faculties.

Delirious talk about business, for an hour.

He attempted several times to escape from his bed.

Apprehensive state of mind ; he dreads the future.

Dejection ; five days after, cheerfulness.

A good deal of weeping, for a day and a half.

Discouraged, and disposed to quarrel.

Peevish ; every thing puts him out of humor.

He demands things which do not exist.

He desires things to be given him immediately ; but when given, he does not care about them.

**Head:—**

Vertigo, as if one were being turned about, or as if every thing turned around him when standing.

Vertigo, when rising from the chair ; every thing turned around him ; the vertigo disappeared after some walking.

Vertigo the whole day, as if he were intoxicated.

Vertigo, as if things turned round, when sitting straight in

her bed ; she feels nauseated in the middle of the chest, as if a fainting fit would come on.

At eight o'clock in the evening vertigo, when standing, so violent that he staggered backwards and threatened to fall.

When attempting to walk, he staggered, as if he would fall on his back.

When walking, he staggers to both sides, as if he were not able to stand firmly.

After a walk she staggers to one side, when standing.

Early in the morning, when rising, he feels so giddy, as if the brain turned in a circle.

Giddiness the whole day, with weakness of the limbs.

A kind of vertigo as if he were intoxicated, and as if the blood rushed violently to the head.

He feels intoxicated, he wants to lie down.

Vertigo, with a feeling of heaviness ; he feels as if every thing were turning in a circle.

Vertigo and fullness in the head.

He is scarcely able to turn his head, owing to a sensation of fullness in the head.

Dull movements in the vertex and the forehead, causing vertigo and stagnation of ideas.

Rather drowsy than giddy.

So weak in his mind, that his thoughts vanish, as is the case when one is about to faint ; at the same time his face feels hot, most so when standing.

Want of memory, inability to recollect.

His head felt heavy, like a hundred weight.

Great weight in the head, and pressure of the brain from behind forwards.

Stupefaction of the head.

Gloominess of the head until the moment one goes to bed.

In the morning the headache does not begin when waking up, but when opening and moving the eyes.

Early in the morning, when waking up, his head feels gloomy and aches, as if he had spent the whole night in revelry ; he does not want to leave his bed.

Mental illusions : her own head seems to her larger than it is.

Stupid feeling in the head, with striking forgetfulness.

She was hardly aware of what she did (in the room), worse when lying down, for twenty-four hours (immediately).

She knew not what she did, and dropped every thing (in the room).

Stupid feeling in the head, finds it difficult to reflect.

Drcary and muddled state of the head.

Excessive heaviness of the head.

Dull pain in the occiput. Dull pressure in the occiput.

Throbbing pain in the forehead, he had to lie down.

Searching (grinding) pressure in the anterior part of the brain with pressing towards the forehead, especially violent when stooping or walking fast; walking fatigues him a good deal.

Such a violent aching in the forehead that he is scarcely able to stoop.

Pressure from within outwards above the left orbit, in the brain, which ends in a pressure upon the eyeball from above downwards.

Pressure in the head when treading.

Gloomy compression in the head, in the forehead, above the eyes.

The blood rushed to the head, after which the head felt compressed from temple to temple.

Sensation as if the head were being compressed from ear to ear.

Headache; a sort of compression with jerkings in the brain resembling pulsations.

Compressive pain in the head, early in the morning, heaviness, intermixed with stitches; she was scarcely able to lift up her eyes from pain; when stooping, she was not able to raise herself again.

Violent headache, the head feeling very heavy, as if it would incline to all sides, with pressure in the brain from within outwards, and great desire to lie down (immediately).

Headache after a meal, and pressure in the forehead from within outwards during a walk.

Headache, as if the contents of the head would issue from the forehead.\*

\* Compare a similar symptom under the heading COLD, CATARRH.

Headache, when stooping, as if all the contents of the head would issue from the forehead.\*

Giddiness and weight in the head, when stooping while sitting or reading, disappearing when raising the head.

Headache only when stooping, a sort of pressing through the forehead from within outwards, especially when sitting.

Pain in both temples, pressing from within outwards.

Headache, as if the skull were being pressed asunder.

Early in the morning, when waking up and lying on the back in bed, headache in the occiput extending as far as the shoulders, resembling a weight which presses upon a sore spot.

Semi-lateral headache ; searching (grinding) pressure, on a small spot of the right half of the brain, being in relation with a painful sub-maxillary gland, through a sort of searching (grinding) or tearing sensation along the bones of the upper and lower jaw.

Headache : early in the morning, after rising, darting drawing extending to the malar and jaw-bones.

Semilateral headache, accompanied by a disagreeable pressure in the eye of that side (in the afternoon).

Tearing pain in the left side of the head.

Compressive pain in both sides of the head.

Single stitches in the forepart of the forehead, with gloominess of the head.

Itching prickings in the right half of the occipito-frontalis muscle.

Darting tearing from the right malar bone to the temple, externally, more violent when touched.

The head aches, especially when touched, mostly in the forepart, for twenty-four hours.

Soreness of one side of the occiput, when touching it.

Heat in the head and face, with redness of the latter.

Violent heat in the head and face.

\* The sensation as of being pressed asunder is the same as that of being compressed, both sensations being perceived by the brain which is enclosed in an unyielding skull ; the sentient powers of the brain are then unable to determine whether the painfulness proceeds from the brain being too much distended, or from the skull being too narrow. It comes from both these causes.

Tearing across the forehead, followed by tearing in the cervical muscles, and afterwards tearing in the right arm.

Lancination in the head through both temples, when walking in the open air.

Lancinations in the head, from the forehead to the occiput.

Turning sensation in the right side of the forehead, and a lancination in the left.

Pain in the head, rather darting than throbbing, the face being hot.

Throbbing in the right side of the head, which may be felt externally with the hand.

Headache on the top of the head, early in the morning when waking up, a kind of painful throbbing.

Pain in the forehead and the occiput, a kind of hollow beating.

Throbbing headache affecting the eyes so as to prevent her from seeing; during motion the throbbings in the head are more rapid; she thinks she hears them.

Chirping in the head, as of grasshoppers.

A sort of gurgling in both temples.

**Scalp:—**

Pain in the temples as if some one pulled him by the hair in that part.

Burning spot of the size of a dollar, which does not ache when touched.

The scalp is painful to the touch, as if sore.

Burning of the head.

Smarting and gnawing on the top of the hairy scalp (at night).

Greasy condition of the hair, early in the morning, the head being cool; the hands become quite greasy when combing the hair.

Violent itching of the top of the head when combing the hair.

Tension of the occipito-frontalis muscle, when moving the eyes.

**Eyes:—**

Pain as from a burn above the left eye and on the left side of the nose, diminished by pressing the part with the fingers.

Pain as if the left eye were being burnt from within outwards.

Pressure in the eyes, with a burning and itching sensation of the eyelids.

Pressure in the eyes, for sixteen days in succession.

Pressure in the right eyeball, rather from above downwards.

Pecking in the right eyeball.

The lower eyelid is sometimes red and inflamed, the upper eyelid twitches.

Agglutination of the eyelids early in the morning, they are somewhat red and swollen, and ache as if they had been rubbed and heated.

Pressure in the eye, early in the morning, as when one presses upon the eye with the hands, or as when one is in a room full of smoke.

Swelling and agglutination of the eyelids early in the morning.

Swelling of the lower eyelid, with internal aching; agglutination early in the morning.

Sensation as of sand being in the eyes, which forces one to rub the eyes.

Sensation in the right eye, in the afternoon, as if a grain of sand were in it.

Sudden painful swelling of one eye, in the forenoon, without any redness; pus comes out, and the conjunctiva is dark-red and swollen.

Lachrymation of the eyes in the open air.

Itching of the margin of the left upper eyelid, mingled with burning and tearing.

Itching, with occasional smarting of the outer canthus of the left eye, which cannot be relieved by rubbing.

Lachrymation of the eyes and itching of the eyelids, as when a sore is healing; he had to rub the part.

Contractive pain in the right orbicularis palpebrarum.

Redness and swelling of the eyelids with pressure in the same, for three days.

Pimple in the lower lid of the left eye, of the size of a pea, painful when pressing it, for sixteen days.

Soft tumor in the internal canthus of the left eye, a good deal of pus oozes out from time to time, for ten days.

\*(Fistula lachrymalis).

When waking in the morning, he is scarcely able to open his eyes, on account of the lids being agglutinated.



Dim-sightedness of the left eye, as if it were full of water.

Weakness of sight, early in the morning : when she attempted to read, all the letters looked blurred.

**Presbyopia.** She was not able to see things at a proximity.

(Photophobia.)

(Flames before the eyes.)

**Ears:—**

Sensation as if the ears were stopped up, and as if no air could get in

When returning home from a walk, he feels alternate stitches in both ears.

Bleeding from the ears.

Violent aching of the right concha.

Ulcerated concha.

Pinching pressure in the glenoid cavity of the right jaw, more violent during motion.

Contractive pain in the meatus auditorius, going off after the wax had been removed with the finger, but returning nevertheless constantly, with hard hearing.

Sensation in the meatus auditorius externus, as if it were being pressed upon with the finger ; this sensation increases when stooping while reading.

Dull pain around the left ear.

Pain as of the interior of the left ear burning from within outwards.

Burning at the lobule of the ear.

Hard tumor behind the ear, frequently changing its size.

Tumor before the ear, bursting open after the lapse of 12 hours, a humor oozing out from it, and forming a yellow scurf.

Slight roaring in the forepart of the right ear.

Ringings in front of the left ear, as with small bells.

(Intolerance of noises.)

**Nose:—**

Frequent tingling and tickling of the septum of the nose, especially when blowing the nose.

Swelling of the left side of the tip of the nose, with a darting pain and a sensation when touched, as if they would ulcerate.

Painfully smarting ulcer in the left nostril.

Bleeding from the nose, followed by ulcerated nostrils.

Bleeding from the nose, lasting a quarter of an hour, early in the morning after rising.

Bleeding at the nose when asleep, early in the morning at 3 o'clock ; it wakes him.

Bleeding at the nose, without having stooped previously.

Swollen nose, with bleeding lasting several days.

(Bleeding from the nose, during suppression of the catamenia.)

Bleeding from the right nostril.

**Face:—**

Painful throbbing in all the parts of the face, which was felt when touching the parts with the finger.

Tension of the skin of the face, when moving the facial muscles.

Flushes of heat over the face.

Paleness of the face for twenty-four hours.

Red, hot, soft bloatedness of the face.

Swelling of the left side of the face, along the nose, with some pain in the swollen part (during diarrhoea.)

Considerable swelling of the upper half of the face, especially below the eyes and above the root of the nose, with swelling of the eyelids ; he was unable to open the left eye for four days.

Small herpetic eruption on the right cheek.

Swelling of the right cheek, close to the ear, with burning pain.

Painful pressure below the right malar bone, going off by external pressure.

Red spots in the face and on the neck (for two days).

Fissure in the lower lip. Burning in the lower lip.

Small, ulcerated blotches on the lower lip, painfully burning when touched.

A small elevation near the corner of the mouth and rather on the lower lip, severely bleeding from time to time, for six days.

(A little pimple on the chin, with stinging pain when touched.)

Painfully burning vesicle on the vermilion border of the lower lip.

Eruption under the left corner of the lips, smarting as if the parts had been excoriated.

Eruption on the lower lip, on the outside of the vermilion border, itching and smarting as from salt.

**Jaws and Teeth:—**

Lancinating, intensely painful darting between the lower lip and the gums, as is experienced in cancer of the lip (early in the morning when in bed).

Toothache ; darting and lacerations in the teeth in the direction of the ear, which obliged her to lie down.\*

Darting toothache, in the evening when in bed, at times in the upper, at times in the lower molar teeth (in the evening, when in bed) for one hour ; when the pain was in a tooth of the upper row, and the tooth was touched with the tip of the finger, the pain suddenly ceased, and affected the opposite tooth of the lower row.

Darting toothache, while he smokes tobacco as usual.

All the teeth vacillate ; this is perceived when touching them or when pressing them against one another.

Pain of a molar tooth when chewing.

Toothache, when taking something warm into the mouth.

When eating, one suffers with a tearing and lancinating toothache (the lacerations extending to the cervical muscles) aggravated by warmth.

Pain as if the tooth were being screwed in and afterwards taken out of its socket (the pain is only momentarily diminished by cold water, but greatly relieved when walking in the open air) ; accompanied by tearing in the cheeks and pinching in the ears, at night until six o'clock in the morning.

Toothache ; when opening the mouth, the air rushes in and causes a pain.

Toothache after midnight (at three o'clock) as when an exposed nerve becomes painful from the cold air rushing in ; the pain becomes insupportable from lying on the unaffected side, and does not pass off till one turns to the affected side.

When drinking something cold, a sore pain is felt in the tooth.

\* There are several symptoms produced by *Bryonia*, which oblige one to lie down : or at least to sit, and several which are increased by walking and standing ; the alternate effects of *Bryonia*, when the symptoms are relieved by motion and become aggravated by quickly sitting or lying down, are, on the contrary, much more frequent.

The gums are painful, as if they were sore and raw, the teeth being vacillating, which makes them painful.

Spongy gums.

Simple pain of one of the submaxillary glands, or as if it were pinched.

Sensation, early in the morning, as if the molar teeth were too long; they were so loose, that they might be bent to and fro with the fingers; she was unable to use them for the purpose of chewing, and, if she did, they felt painful and as if they would fall out of their sockets, fifteen hours.

His teeth feel to him as if they were too long.

Drawing, sometimes darting toothache in the molars of the left upper jaw, only during and after a meal, the teeth feeling as if they were too long and vacillating to and fro.

Drawing pain in the molars of the upper and lower jaw.

Excessive toothache when at rest, and especially when in bed, abating when chewing.

Sensation in the lower jaw, as if there were pimple on the bone, causing a tensive pain when touched or when turning the head.

#### **Mouth:—**

Dry feeling, not on the tongue, but in the upper part of the palate.

The mouth feels dry without his being thirsty.

Dry feeling on the inner side of the upper lip and corresponding tooth.

A good deal of thirst by day, without any heat.

The saliva runs involuntarily out at the corners of the mouth.

Tongue coated white.

• Eruption of red rash on the neck.

Rough and scraping sensation in the throat.

His throat feels swollen, and as if he had a violent cold which hinders speech.

Burning, smarting blisters on the anterior edge of the tongue.

The mouth is so dry that the tongue sticks to the palate.

Dryness in the mouth without any thirst.

Early in the morning dry feeling in the mouth.

A good deal of spitting.

Accumulation of a quantity of saliva in the mouth, which foams like soap.

Putrid smell from the mouth.

**Throat:—**

Painful stiffness of all the muscles of the neck when moving it, and roughness of the throat when swallowing.

Smarting, itching eruption around the neck, especially after sweating.

Stinging in the throat when touching it from without, or when turning the head.

Stinging in the throat when swallowing.

Pressure in the fauces as if he had swallowed a hard body with sharp corners.

She is unable to swallow either solid or liquid food ; it chokes her.

(Sensation when swallowing, as if the throat were swollen internally or full of mucus, which one is unable to hawk up.)

Sore throat ; dryness and rawness of the throat during empty deglutition ; when drinking, this sensation passes off for a short while, but returns shortly ; the pain is worst in a warm room.

Dry feeling in the back part and upper part of the throat.

Drawing, from below upwards, towards the ear, with pressure in the throat.

Pain of the back part of the throat, felt during motion.

**Taste and Appetite:—**

Inspid, flat taste in the mouth.

Sweetish, flat taste in the mouth.

She does not taste the food ; her mouth is bitter between the meals.

Every thing tastes bitter to him, he is unable to swallow any thing.

Bitter taste in the palate continuing after a meal.

Bad, bitter taste in the mouth, early in the morning.

Early in the morning she has a taste in the mouth as of decayed teeth or putrid meat.

Tolerably clean tongue, with disgusting taste in the throat, as when persons smell badly from the mouth ; she has a taste in her mouth like the smell of spoiled meat ; she has not got this taste while eating.

In the evening he has a taste in his throat as from the smoke of rancid grease.

Loss of appetite without any bad taste.

Canine hunger without any appetite.

Canine hunger until bed-time.

He is hungry, and eats, but without any appetite.

He has no appetite for milk ; but while taking it, he gets an appetite for it, and likes it.

He desires many things, which he cannot eat.

Food smells well to her, but when beginning to eat, the appetite is gone.

Appetite for wine.

Appetite for coffee. Violent desire for coffee.

Insipid, disgusting taste in the mouth.

Sweetish, disgusting taste in the mouth.

Spoiled appetite.

The stomach feels empty ; he is hungry without having any appetite.

Canine hunger early in the morning, without any appetite.

Hunger with loss of appetite.

Continued nausea, succeeded by canine hunger (in a few hours).

Canine hunger early in the morning, with thirst and flushes of heat.

Violent hunger, for a fortnight.

Violent appetite for six days.

Violent thirst twenty-two days.

Thirst, especially early in the morning.

Violent thirst, day and night.

Great thirst after a meal, for 16 days.

Violent thirst obliging him to drink a good deal at a time but not often.

Thirst occasioned by a sensation as if mucus were lodged in the throat.

Thirst increased after drinking beer.

**Stomach :—**

Frequent risings of mere air.

Hiccough succeeding the eructations, without having eaten any thing previously.

Violent hiccough.

Frequent eructations after a meal, from morning till night.

Eructations tasting of the ingesta.

No eructations after drinking, but after taking the least food ;

however, only air rises, without any bad taste.

Eruclatations, with rancid taste in the mouth, and mucus in the throat.

Stinging pain during every eructation.

Burning, almost uninterrupted eruclatations, which makes his mouth rough, and prevent him from tasting the nourishment he takes.

After a meal, an astringent, dry taste, this dryness remaining in the anterior part of the mouth, without any thirst; the lips are dry and chapped.

Bitter taste in the mouth, in the evening after lying down.

Eruclatations after a meal, finally bitter eruclatations.

Bitter eruclatations after a meal.

Bitter risings from the œsophagus, without any eruclatations, with inclination to vomit.

Sourish eruclatations, sourish water running from his mouth.

Inclination to vomit, early in the morning, after an anxious dream, without being able to vomit, accompanied by frequent, empty eruclatations.

Nausea, in the evening before going to bed.

He wakes up after midnight with nausea, he is obliged to vomit, he vomits food and bile.

Regurgitation of aliments; she gulps them up.

Regurgitation of the ingesta, without any effort at vomiting.

Nausea and inclination to vomit, even after eating something which has tasted well to him.

She vomits solid food, but not the liquids.

Nausea for half an hour, every morning, two hours after rising, with accumulation of water in the mouth.

Nausea in the evening, followed by the discharge of a quantity of water from the mouth (water-brash).

Nausea, inclination to vomit, without having eaten any thing.

Nausea and inclination to vomit, early in the morning when waking up.

(Hæmatemesis and lying down.)

Early in the morning at six o'clock, vomiting of a bitter, musty and putrid liquid, leaving a similar taste in the mouth.

Nauseous taste after drinking (in the afternoon).

Vomiting of mucus in the evening.

Gulping up of water and mucus, like water-brash (at six o'clock in the evening); these substances rose into the chest, with coldness over the whole body.

Painful sensation in the œsophagus, rather in the lower part, as if it were constricted.

Gulping up of mucus from the stomach, early in the morning.

Cough, especially after a meal.

Headache, a quarter of an hour after every meal; it passes off gradually, but comes on again after the next meal.

Cutting as with knives, in the pit of the stomach.

Violent pressure in the pit when walking, immediately after supper; lastly, pressure upon the bladder and the perinæum, which becomes intolerable; the pressure disappeared when sitting.

Pressure in the stomach, immediately after having eaten something, and even during the meal.

Pressure in the stomach after a meal; there was a load in the stomach, as of a stone; this made him ill-humored.

Clawing and pressure in the abdomen, in the umbilical region, when standing or walking.

Contractive pain in the stomach, some hours after a meal.

Contractive pain in the stomach after a meal, followed by cutting in and above the pit of the stomach, eructations, flushes of heat, nausea and vomiting of the ingesta.

Tenacious mucus in the fauces, which can be loosened and hawked up.

Frequent, sometimes sourish eructations after a meal.

Nausea, continuing twenty-four hours, with discharge of a quantity of water from the mouth.

Nausea, especially when smoking (in one accustomed to it).

Inclination to vomit (immediately).

Several attacks of vomiting of a bitter and yellow mucus.

Pressure in the stomach after a meal.

Pressure in the stomach when walking.

Pinching in the pit of the stomach.

Sensation in the pit of the stomach, as if it were swollen.

Extremely disagreeable sensation under the pit of the stomach, as if it were swollen.

*(To be Continued.)*



## THE SYSTEM OF JAIL ADMINISTRATION IN ENGLAND.

BY GOPAL CHUNDER ROY, M. D., F. R. C. S.

IN my last report of English charities I have not been able to dwell on the system of Jail administration. The following notes, imperfect as they are, will afford some insight into the working of the institution in the kingdom. I visited two Jails, the one in Surrey and the one in Glasgow, the former in company of Mr. Hudson the magistrate and the latter in company of Mr. Arthur the Lord Provost of Glasgow, to whom I am indebted for all the information I here submit.

The Surrey Jail, which is intended for about 1000 inmates, consists of a central quadrangle, from which diverge like radii different tiers of building 2 or 3 storeys high. Each flat is subdivided into small compartments, not larger than 6 by 8 ft, for the residence of individual prisoners where they live and work completely excluded from the company of their comrades. The room is provided with a hammock, blankets, commodes and other necessities. The labors of the prisoners are only of a kind calculated to supply their own wants. The baker bakes bread for his fellowmen, the tailor stitches cloth and the shoemaker contributes his quota of assistance in preparing shoes for the inmates of the establishment. Persons not having the benefit of a profession are employed in picking oakum or are put in the comparatively heavy work of turning a crank or working in a flour-mill. The last two works are especially allotted to those who are sentenced with hard labor. The crank is the most unprofitable business and consists of a heavy rack and pinion with a handle for turning. The number of turns in the day is shown by the indicator which moves like the hands of a clock with each rotation of the wheel. Each prisoner is allotted a certain amount of work which he is bound to do without the need of constant supervision. The works are generally indoor, but the inmates are allowed one hour's exercise daily in the open air on which occasion they appear masked without the possibility of knowing each other. They are made to promenade round certain turns and the guard prevents them from holding mutual intercourse. The mask system has for its object the prevention of mutual

recognition in the Jail, so that a man convicted for the first time may leave its precincts without the possibility of his comrades ever knowing him in after-life. But each prisoner is photographed directly on his admission and holds a permanent place in the family album of the establishment. In the event of any want in the cell, the prisoner pulls the rope in connection with the bell and door plate, when simultaneously with the ringing, the plate with the number of the room stands out in relief to indicate to the guard where he is wanted. Thus with a surprisingly small number of servants, the business is conducted in a silent and quite efficient way. In the female department millinery and laundry work constitutes the principal labor. The prisoners are liberally dieted; persons convicted for a short term are not allowed any meat, but long residents are allowed the privilege twice in a week.

There are some points in British Jail administration which are managed on principle entirely different from ours. Thus notwithstanding the great facility which the government has in making the Jail a lucrative house, such practice is not at all encouraged lest it should interfere with honest out-door labor. Any manufacture carried on within the Jail where the value of labor comes to nought, can be sold in the market for less price than similar articles manufactured out of its walls by labor which has value. A competition will, in consequence, be established much to the detriment of working citizens, and government will thrive at the expense of artisans. The Jailor, who is allowed a certain per centage of commission on the entire produce, will find it to his interest to extort as much work as is barely consistent with the prisoners' health. The reduction of the market price has been already manifest in those districts in India where the Jails supply the household wants, and prisoners are sent to work outside the compound to supplement honest labourers. Although it fills the coffers of our liberal government, it is doing injustice to the working classes and tends to disseminating amongst them the seeds of pauperism by putting a stop to the free currency of independent trade.

The second question is with regard to the feeling of the prisoners. Whilst in London this regard to personal feeling is shown by masking them from exposure and preventing unreserved inter-

course, in Glasgow no such delicacy is observed. Two prisoners can sleep in one room and hold mutual conversation, the object being to make the residence in the Jail as little unpleasant and arduous irrespective of any personal delicacy. Although the truth of this is palpable yet it cannot be denied that the acquaintanceship in a prison is by no means desirable or elevating. Punishment by stripes is out of vogue and any refractory conduct is met by the delinquent being sent into a dark dungeon, the sombre gloominess of which is quite enough to tame down any discontented spirit in a day or two.

Boys and girls under 12 years of age are sentenced to the reformatory where they undergo instruction in the different professions of tailor, carpenter, or shoe-maker to befit them as useful members of society in after-life. They are taught also to read and write, and the girls are instructed in housemaid's work with which they are generally provided after their term of penal servitude comes to a close. The reformatories I visited in Bristol and in London seemed very ably conducted, and the members were quite content with their lot and loved and respected their governors and governesses. The reformatory is supported mainly by local taxation raised from the district by the municipality, and the praise-worthy object can hardly receive too much eulogium when we understand that the end and aim of it is the prevention of future crime. It is said in common parlance that prevention is better than cure, that it is more salutary to prevent the breaking out of fire than to extinguish it when the conflagration is at its height; it is more creditable to prevent disease by good sanitary arrangements than to remedy it after the constitution is undermined by foul distempers. Instead of the Jailor or Governor reaping the benefit of the work, the boys are allowed a certain per centage of commission on it with which they are presented at the time of their discharge. Some evince a great willingness to emigrate to America, and I was quite amused to see nearly the whole of the boys testifying their inclination for it when asked by the governor to hold up their hands. It is from this body that the number of emigrants to America is chiefly supplied.

This short description of the Jail administration will show how the prisoners are carefully looked after, how they are taught to read, write and improve, and thrown upon society with a

more hopeful prospect than when they entered the iron gates of Justice. It is a wonder why under the same liberal government, a different system prevails in India, where a youthful criminal is thrown indiscriminately into the society of a blackguardy ruffian, whose constant contact pollutes the very essence of his good nature and turns him out a confirmed vagabond.

In my next I will give some details of the different factories I had the opportunity of visiting through the kindness of my friends.

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## THE DOSE QUESTION.

IN the *Monthly Homœopathic Review* for August last there is a very able editorial on the above subject, concluding with expressing "a hope that all who take an interest in this important matter will carefully reflect each on his own experience, and endeavour to extract some additional evidence of the relative value of large and small doses, of low and high dilutions, and, if possible, to deduce therefrom some principles which may assist us in elevating this question from the region of empiricism to a well-grounded scientific basis." To respond to this hope as far as it lies in our power, and no less under the impression that every practitioner of medicine is bound to lay the results of his experience before the profession, we have ventured to say our say on the above question which has assumed importance in proportion to the difference of opinion that is daily being entertained about it. Our experience extends only from the year 1867 and might not be deemed sufficient for enabling one to arrive at any positive and definite conclusions on this the puzzle of puzzles in homœopathy. Nevertheless we believe that even the negative results that may be deduced from it may not be uninteresting and altogether unprofitable.

The question of dose is a wide one. It is not confined to Medicine alone. It is the question of quantity as distinguished, though not contradistinguished, from quality. Quality and quantity are the two factors which require to be determined in order to enable us to produce any result with success. Though distinguishable logically we cannot imagine their dis-sociation in practice. Quality must be determined to enable us to do any thing at all. Quantity must be determined to enable us to do it with neatness and mathematical precision, in a word with economy. It is true, in some instances, quantity can make up for quality, and *vice versa*, but the result obtained is not the pure result wished for. It is always at the expense of something else.

The question of dose presents to homœopathic practitioners a two-fold aspect; the one is the question of the dilution, the other is that of the actual quantity of the dilution. This distinction, so far as we have been able to ascertain, has not been dwelt upon by any who has treated of the dose question. The distinction is

not one of over refinement, but is one that deserves consideration in practice. Our experience has impressed us with the conviction that it is not enough to select the dilution, but that it is also necessary to determine the quantity of it that has to be exhibited, whether so small as in globules or so large as in drops. Generally we have found that in children and very susceptible individuals, globules representing very minute quantities of the medicine in a particular dilution are the best forms in which to exhibit the drug in that dilution ; that in adults and insusceptible persons, tinctures are necessary to make an impression. We have seen from repeated experience that where the globule succeeds, the tincture aggravates, and that where the tincture is necessary, the globule is almost powerless. Strictly considered this two-fold aspect of the question resolves itself into the question of the dilution, for when a drug is exhibited in a particular dilution and in a particular quantity it is further diluted in the mass of the circulating blood and in the other fluids immediately bathing the tissues, and in this particular diluted state it is that the medicine acts upon tissues and organs for which it has an elective affinity. This ultimate dilution in the system must vary with the quantity exhibited of the druggist's dilution, that is of the dilution marked on the phial, and consequently according to the quantity exhibited we must have a different action, the system responding or not, according to its requirements or susceptibility.

If the above observation, that there is a distinct difference of therapeutic results from varying quantities of the same dilution, is correct, then the general question of dose of homœopathically acting medicines receives considerable solution in the fact. If different *quantities* of a particular dilution be necessary to produce purely curative results according to difference of age and constitution, then the inference is almost obvious that we must have different dilutions to meet the different requirements of our cases, according to the seat of the diseases, &c.

The Editor of the *Revue*, while quoting unimpeachable evidence in favor of the actions of all dilutions from the crude drug to the 200th dilution, seems to lean towards the view propounded by Dr. Black, that the therapeutic doses need not be much aside the physiological ones, that is, need not in any case go beyond

the 6th decimal, and, to test the accuracy of this view, the learned Editor would require of homœopathic practitioners to adhere as much as possible to Dr. Black's rule. This, in our opinion, grounded upon hard experience, would not be safe practice. We have always looked upon the rough imitations of homœopathy by orthodox physicians as exceedingly dangerous, and in numbers of instances we have had very good reasons for doing so. And we shall be sorry indeed to see physicians of our ranks imitate the imitations of their allopathic brethren.

What then is to be done? We have, indeed, a rule, positive and scientific, for the selection of the remedy, but in order to avail ourselves of the full benefit derivable from it, we must have a supplementary rule for the determination of the dose. It is true that after wading through the difficulties of practice for a long time, one may acquire sufficient experience to enable one to meet the requirements of one's limited circle. But this experience cannot be easily acquired, and all cannot be trusted with this mode of acquiring it. An approximate rule, at least, should be presented to the beginner to enable him to proceed with as little difficulty to himself and as little injury to his patients as possible. Of course, in matters of such importance, no rule ought to be absolutely binding, but it would be a great help and a great comfort to have one to open out the path for experience.

But how can such a rule be derived? How co-ordinate the discrepant and conflicting opinions that have accumulated on the subject? It is most unfortunate that we cannot profit by the actual experience of the great Father of our system. It is notorious that his dogmatic assertion that a minute quantity of 30th centesimal dilution was a sufficient dose for all cases, has not only not been verified and confirmed by subsequent experience, but that it was quite at variance with his own actual practice as recorded by himself, and as further revealed by the discovery of his pocket-case which he is said to have carried with him up to his death, in which medicines of all dilutions from the 3rd to the 30th were found. In the face of these incontestible facts, how are we to account for Hahnemann's dogmatism in the matter of dose? We can think of no other way of accounting for it than by supposing that, in a few instances he must have observed the efficacy of the 30th dil. and that subsequent experience of gradually diminishing

the dose must have to a considerable extent confirmed his previous observation, but that in asserting that the 30th dil. was sufficient in all cases, he merely enunciated his belief, without adhering to it in actual practice in which he did not venture out much beyond his past experience. He would thus seem to us to have been very judicious and extremely cautious as a practitioner, but hasty and rash as a teacher. What he thought might turn out to be true, and, therefore, what he should have offered as a mere suggestion for future verification, he was in the habit of laying down as a positive rule of practice.

But though Hahnemann has failed to give us an exact rule of the dose, the discovery of the efficacy of the so-called infinitesimal dose, that is, of a dose, if not infinitely, at least, indefinitely minute, compared to the dose of orthodoxy, is what we look upon as his greatest discovery. As to the law of healing, though we owe to him its first positive conception and its full development, we can trace vague conjectures and surmises about it to the days of Hippocrates, if not earlier. But nowhere do we meet with the faintest idea of the dose, such as Hahnemann developed, and which has become almost the characteristic of homœopathy. Any practitioner, who has had any experience with homœopathic dilutions, must have been convinced of their efficacy, so that the question with homœopaths now, is not as to whether they act or not, but how far we need, or ought to carry on our dilutions, and whether a scale cannot be constructed which can help in regulating the dilution according to the seat and nature of the disease, according to the sex, age, and habits of the patient, and according to the seasons and the climate.

It is not easy to devise the method of procedure by which to construct the much-wished-for posological scale. In general terms, it is very easy to say that experiment and experience alone ought to decide the matter. But we must remember that we have to experiment not upon inert matter nor upon the lower animals, but upon human beings; and that therapeutic experiences do not often offer themselves under the most favorable circumstances for scientific systematization. Without subscribing to Dr. Black's rule, we have no hesitation in affirming the importance of a knowledge of the physiological dose, that is of the dose, or range of doses, capable of producing a particular symptom or a



particular group of symptoms in health. We say range of doses, because it is a well-established fact that the dose, requisite to produce a particular physiological disturbance, varies according to a variety of circumstances and accidents, and we must be careful in bearing in mind the minimum and the maximum doses, in order to institute with scientific precision a comparison of the range of physiological with the corresponding range of therapeutic doses. And we have no doubt that such comparisons will enable us ultimately to discover the definite ratio that must exist between the two sets of doses. Now when we remember that Hahnemann has left no record of the doses he used in his provings, and that it is unknown whether the remedies, of which we have provings in the *Chronic Diseases*, were proved in the crude state or in dilutions, and that, in consequence, the physiological doses of only a few, a very few medicines, are known, and that not with scientific accuracy, when we remember all this, we should be able to realize the magnitude of the problem of the dose, and understand how unphilosophical, not to say foolish, it is to dogmatize upon it, and how unworthy it is of members of our school to divide themselves into sects on the score of difference arising from such dogmatism. As a corollary from this we see also the impracticability, in the present state of homeopathy, of Dr. Black's rule in its scientific aspect. The physiological dose being in the majority of instances unknown, the therapeutic dose, which is to approximate to it, must necessarily remain undetermined. We have already commented upon the empirical aspect of Dr. Black's rule as, in our opinion, rather unsafe and dangerous for the beginner.

There is one fact which we have repeatedly observed, and which, we think, ought to exercise a considerable influence in the determination of the problem before us, namely, that in the treatment of the same case, when extending through a length of time, even when the same medicine is indicated, not only has the medicine to be intermitted, but that the dilution has to be changed, from time to time, in order to derive full benefit from it. The system would seem to get accustomed as it were to the influence of the drug, and ceases to be further influenced, unless allowed some rest, or freshly stimulated by a different degree of attenuation. This points to the hopeless impossibility of lay-

ing down precise rules about the dilution even with reference to the nature of the disease. In one of the cases we have recorded in the Journal, we had to begin at the 6th and gradually reach the 200th and then to come back to the 6th. It is also to be noted that the same disease, attacking the same person a second time, very often requires for its cure a different dilution from that originally prescribed, and not unfrequently, a different remedy.

The question recurs, what then is to be done? The difficulties in the way of arriving at a satisfactory conclusion upon this question of the dose, having been seen to be formidable, how is the beginner to proceed? We think, it can be safely laid down for his guidance that, as a general rule he should use low dilutions in acute, and high dilutions in chronic affections; low dilutions in diseases of the abdominal viscera, higher in diseases of the respiratory organs; low dilutions in the phlegmatic, higher in the bilious, sanguine, and especially nervous temperaments; low dilutions in catarrhal, rheumatic and syphilitic affections, higher in idiopathic and nervous disorders; low dilutions in adults and especially the male sex, higher in children and specially in the female sex. In our humble opinion, the 6th should be the lowest dilution one should begin with, and then it will be easier to feel one's way higher and lower. The beginner should do well to remember the classification of drugs as suggested by Goullon, Hirsch, and Trinks, namely, that some act better in the undiluted state and in very low dilutions, some in medium dilutions, and some in high dilutions. He should also do well to remember what particular physicians have said regarding particular drugs, such as Dr. Madden's observation that *Cham.* is better suited, in the 12th than in any other dilution, for cases of reflex irritability of the gastric and intestinal mucous membranes in childhood, an observation which our own experience has confirmed.

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## REVIEW.

মাতৃশিক্ষা। অর্থাৎ গর্ভাবস্থায় ও মৃতিকা গৃহে মাতার এবং বাল্যাবস্থায় পর্যন্ত সন্তানের স্বাস্থ্য রক্ষা বিষয়ক উপদেশ। শ্রীগঙ্গাপ্রসাদ মুখোপাধ্যায় এম্. বি. প্রণীত। ভবানীপুর; সাপ্তাহিক সংবাদ যন্ত্রে মুদ্রিত। শকাব্দা ১৭৯২ ॥

*Mātrīśikshā* ; or *Instructions touching the preservation of the mother's health in pregnancy and during confinement, and of the child in infancy.* By Ganga Prasad Mookerjee, M. B. Bhowanipore. 1871.

WE have done an injustice to the Author in not having noticed this admirable, neat little work earlier. We believe this is the third work\* in Bengali on the subject, and we have no hesitation in pronouncing it the best. The first work, *The Infant Treatment*, by Babu Sib Chunder Dev, of Konnagar, a gentleman of intelligence and learning and devoted to the cause of homœopathy and humanity, was not an original work, but a free translation of Andrew Combe's *Treatise on the Physiological and Moral Management of Infancy*, but for its author as a layman, was highly creditable. The author's hope, that his work "may induce abler persons to take up the subject," was not in vain. Babu Jodu Nath Mukerjee, a Licentiate of Medicine and Surgery of the Calcutta University, took up a part of the subject, and published in 1869, *A guide to the Daers or Native Midwives, written in the Form of a dialogue*. The *Guide* is a work of considerable merit, and we have great pleasure in pronouncing it a safe one. Babu Ganga Prasad takes up a wider subject, and produces in 1871 a work with *Instructions touching the preservation of the mother's health in pregnancy and during confinement, and of the child in infancy*.

The appearance of two popular volumes on kindred subjects within three years of each other by professionally trained-up persons proves both the popularity of the subject and the growing desire among our medical men to become useful to their country.

\* *The Diseases of Children*, forming Part II. of a series of *Homœopathic Therapeutics*, though by a layman, and which we reviewed in the No. for May and June 1870, is not exactly a popular work, and therefore not included in this list.

Our readers need not be reminded how often we have held forth on such subjects in these pages. The fact is that, we Bengalis as a nation must be prepared either to remain in our present pitiable physical condition or be altogether swept away from the face of the earth, unless we observe those laws of hygiene, whose long-continued violation has dragged us down to our present degradation. We are convinced that this departure from hygienic conditions, which has entailed upon our countrymen such an endless train of bodily ailments, cannot be more successfully prevented than by the widest dissemination of correct knowledge relating to these subjects. We hail therefore all attempts at popularizing the teachings of science. But especially when a man of such varied acquirements as the author of the little volume before us devotes the little leisure he can snatch from professional engagements for the benefit of his unscientific countrymen, our appreciation of such labors rises much higher. Indeed we are firmly of opinion that it is only men eminent in their respective departments of scientific acquirements who can do justice to a subject even when most popularly treated. Huxley's little volume on physiology ranks much higher in our esteem than the more pretentious compilations of less gifted men such as Lewis's *Physiology of Common Life*. Babu Ganga Prasad accordingly has our best sympathies in his endeavour to enlighten his fair readers upon subjects which so deeply concern them and their darlings. He has dealt with his topics as simply as their nature admitted, and at the same time in as plain a style as to be level to the commonest capacity. The chapters on diet are particularly valuable, and the remarks on the betel and tobacco are judicious and manly. We need hardly say, that we go with him thoroughly in his condemnation of both these articles of daily and habitual use amongst us. With reference to tobacco our author very justly says that if parents are anxious that their children should not become addicted to the vicious habit of smoking or keeping half-charred tobacco in their mouths, they must enforce their precepts by their own example.

We should be wanting, however, in our duty as public journalists were we, in our general satisfaction with the manner in which our author has executed his work, to conceal our real feelings as to the occasionally slipshod style of writing he adopts. We are free to admit that such sins of composition in Bengali are

extremely difficult to be avoided by our English-educated Bengali writers. Our author may also plead his want of leisure to impart that finish to the form which he so solicitously secured to the substance. Yet with all these extenuating circumstances in his favor, Babu Ganga Prasad would find it hard to suppress a smile in his fair readers to whom he so gracefully and appropriately dedicates his extremely well-got-up and beautifully bound book, when they discover in his modest prayer to them to point out his shortcomings, as well as in other parts of the work, such phrases as ; দৃষ্টকরিবেন, উপরূত বোধ করিব, ইহাদের হইতে উপদেশ পাওয়া, অনেক পক্ষে নিশ্চিত থাকিতে পারা যায়, মাতৃভূক্তের পরিবর্তে অপর কোন স্ত্রীলোকের ভুক্তই সর্বোৎকৃষ্ট বিবেচনা করিতে হইবে, কিন্তু প্রচুর গর্দভের ভুক্ত, বিশেষতঃ পল্লীগ্রামে, পাওয়া নিতান্ত সহজ নহে, &c. If Bengali typography had admitted of being italicized, we could have pointed out the particular words and phrases in these sentences which we condemn, but which our readers will no doubt be able to see without such aid. It is in no captious spirit that we point out these errors of language. We have already commended the style of the author as remarkably simple and peculiarly adapted for the popular understanding, and it is because we put a high value upon his writings, that we wish them to be purged of the faults, such as we have pointed out. We hope, therefore, our author would take our criticism in the spirit we offer it.

We cannot bring our short notice of this worthy little volume to a close before expressing our hope that no educated household in the country should be without it, and the extremely low price of two rupees per copy, for a work of so much real utility and such neat getting-up, will, we dare anticipate, obtain for it an extensive circulation.

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## CLINICAL RECORD.

*A case of Hysteria.*

UNDER CARE OF DR. M. L. SIRCAR.

THE husband of the girl, subject to the above disease, came to me in the middle of May last, and gave me the following history of the case:—

For 5 years previous to the commencement of the present disease the patient used to suffer from the following complaints: acidity of the stomach, burning of the skin generally and of the hands and feet in particular, pains in the chest, hemicrania. All these had come on after an attack of fever. In Bysakh 1277, that is, upwards of 13 months ago, she all on a sudden vomited a large quantity of blood, and was in consequence at once placed under allopathic treatment. In spite of the continuance of this treatment for 3 months, the patient used to vomit blood, two, three times a day. The only improvement that was perceived was that the blood, which was thin and a mixture of dark and red blood, became thick and black and lost its fishy smell. After this the patient was placed under kaviraj treatment. Under this treatment the vomiting of blood had stopped for 4 months, but the other complaints of the patient were not relieved. After this period, all on a sudden the patient vomited blood again, and again an allopathic doctor was sent for. Immediately after the vomiting of blood had ceased by the medicines he administered, the patient fell into a swoon followed by convulsions. This state of alternate stupor and convulsions lasted for five days. On the first day the most heroic allopathic treatment failing to do any good, the patient was placed under a gentleman who had some knowledge of homœopathy. On the 5th day, the fit disappeared. The patient continued under this gentleman's treatment for nearly 3 months. During this period, she had no fit, but used to vomit blood, commencing about 6 days before the menses and continuing about 3 or 4 days after, altogether about 13 or 14 days. In consequence of this the patient was brought to Calcutta. While coming by boat she had a fit of fainting and convulsions which lasted the whole time of the journey (1½ days) and about 12 hours after arrival in Calcutta.

On arrival in Calcutta, which was by the middle of January last, she was placed under homœopathic treatment. She had at first *Nux Vomica* 30th, which was continued for a month; the result of this was good sleep at night and less vomiting, but the hysteric fit and the hæmatemesis recurring as usual, *Arn.* 30th, *Puls.* 6th, and *Bryo.* 18th were

given in succession, without however any abatement of the formidable hysteric symptoms.

The symptoms, when I was called in to treat the case, were as follows :—The hæmatemesis is preceded by the fainting fit which lasts from 7 to 12 hours. The fainting fit is preceded by pains in the chest and stomach, which are relieved by the vomiting of blood. The blood thrown up is black and clotted. These fits of fainting and hæmatemesis generally commence 2 or 3 days before the menses and continue for 2 to 3 days after ; sometimes they take place at other times. The menstrual blood used to be profuse before, but now it is scanty. The patient has white leucorrhœa. During the menses she experiences nausea, pains in the uterine region and burning of the skin. The patient is subject to vertigo, which she feels especially on rising from a seat ; she has occasional attacks of hemicrania ; her vision is weak, being unable to distinguish objects at a distance. There is pain in the throat, and pains about the umbilicus. During the menses she feels as if there is a solid mass in the lower belly which rises up towards the chest. The patient has leucorrhœa for 4 years. In her childhood she was subject to attacks of fever, diarrhœa and worms. Worms used to come out of the mouth.

This case was evidently a complicated form of hysteria, and although all the symptoms did not correspond, I prescribed (24th May) *moschus* 6, having recently had experience of its remarkable influence over this disease in some cases. This had the desired effect. At the next course, she vomited blood only for a day, and very small in quantity, and at the course after this, there was no hæmatemesis. After this the patient was well up to the 16th July, up to which date, *moschus* was continued.

On the morning of the 17th, she had a fainting fit which lasted till 3 p. m., after which she vomited clots of blood. This was followed by strong fever. She had once more vomited blood and a large quantity of slime this day.

On the 18th the fever made its appearance again in the morning which lasted till after midnight, in spite a dose of *acon.* 6. in the morning. There was no more vomiting of blood to day.

On the 21st I prescribed *calc. c.* 30. This checked the vomiting of blood and slime and relieved some of the other symptoms, but did not check the fever. The fever used to come on at the same time in the morning, and on that account gave her on the 23rd *sabad.* 3, but without the least benefit. On the next day, gave her *Ars.* 12, on account of the excessive burning of the stomach and chest. Although it relieved the particular symptoms for which it was exhibited, it could not

prevent the daily accession of the febrile paroxysms. Looking upon this as a fresh case of malarious fever, I gave her quinine in massive doses. The fever was at once checked, and she has remained all right since.

*Remarks.*

This case demonstrates the utility of remedies whose pathogenesis, without corresponding to all the minutiae, corresponds in a general way to the symptoms of a case. Under the pathogenesis of *moschus* we do not meet with vomiting of blood, nevertheless the drug succeeded in checking it in this particular case by rectifying the hysteric cachexia, if we may so call it. The case proves also the utility of quinine in recent malarious fevers, and it is cruel, in our opinion, to withhold it when the paroxysms are distinctly aguish and other remedies fail. Distinct periodicity of recurrence with distinct intermission ought to be sufficient similitum to warrant the exhibition of the drug. Besides, where with the return of the paroxysm, there is aggravation of all the symptoms, to withhold quinine has been in many cases to endanger the lives of patients.

*A Case of Abscess in the Abdominal Parietes ;  
dispersed by Hepar Sulph.*

UNDER CARE OF DR. M. L. SIRCAR.

ON the 26th August last, I was called to see Baboo Akshya Kumar Banerjea, who had come down from his native village Satgachia for treatment. He was laid up in bed with a huge swelling in the left iliac region just above the sigmoid flexure, which was exceedingly tender to the touch and which appeared to be an incipient abscess deep-seated in the abdominal wall at this place. The patient had hectic fever and was extremely prostrated in strength. He was 20 days under allopathic treatment, but without deriving the slightest benefit from it. The swelling, the pain, the fever, and the prostration have been increasing day by day. He could not move from his bed at all. Having in several instances observed the remarkable powers of *Hep. s.* to discuss abscesses, I prescribed it at the 6th dil. three times a day. In less than a week the patient was nearly free from fever, the swelling considerably diminished, and the patient on the whole was so well as to be able to sit up and even walk a little. After a few days, the improvement became rather stationary, and I gave him *Rhus tox.* 6. From this time forth the improvement was rapid, the swelling, pain, fever, and debility all disappearing by the 20th Sept. By the end of the month he was all right.



# चरकसंहिता

सूत्रस्थानम् ।

पञ्चमोऽध्यायः ।

चन्दनागुरुणी पत्रं दाव्यो त्वक् मधुकं वलाम् ।  
 प्रपौण्डरीकं सूक्ष्मैलां विडङ्गं विल्वमुत्पलम् ॥ ५५ ॥  
 क्लीवेरमभयां धान्यं त्वङ्मुखं सारिवां स्थिराम् ।  
 सुराहं घञ्जिपसीञ्च जीवन्तीञ्च शतावरीम् ॥ ५६ ॥  
 हरेणूँ हृत्तौ व्याघ्रीं सुरभीं पद्मकेशरम् ।  
 विपाचयेच्छतगुणे माहेन्द्रे विमलेऽम्भसि ॥ ५७ ॥

## CHARAKA SANHITA.

### CHAPTER 5.

55. Red sandal wood, black sandal wood, cinnamon leaves, bark of wood turmeric, liquorice, valā (बलेड़ा), prapaundarika (प्रपुण्डरीका), small cardamoms, viranga, vel, utpala (निलसून्दि),

56. Hriversa (वाना), abhaya (इरीतकी) coriander, cinnamon leaves, musta (मुता), sāriva (अनन्तमूल, hemedesmus indica), sthira (शानशानी, heydisarum gangeticum), surāhva (देवदारु), prisniparni (चौकले), jivanti, satāvari (शतमूल),

57. Harenuka, vrihati, vyāghri (कण्टिकारी, solanum jacquini), surabhi, stamens of the lotus,—these should be boiled in pure rain water, the quantity of which should be hundred times that of the oil to be afterwards added.

तैलाद्दशगुणं शेषं कषायमवतारयेत् ।

तेन तैलं कषायेण दशद्वत्त्वं विपाचयेत् ॥ ५८ ॥

अथास्य दशमे पाके समांशं कागलं पयः ।

दद्यादेषो ऽनुतैलस्य लावनीयस्य संविधिः ॥ ५९ ॥

अस्य मात्रां प्रयुञ्जीत तैलस्यार्द्धपलोन्मिताम् ।

स्निग्धस्विन्नोत्तमाङ्गस्य पिचुना लावनैस्त्रिभिः ॥ ६० ॥

तत्राहत् तत्राहत् च सप्ताहमेतत्कर्म समाचरेत् ।

निवातोष्णसमाचारो हिताशी नियतेन्द्रियः ॥ ६१ ॥

तैलमेतत् त्रिदोषघ्नमिन्द्रियाणां बलप्रदम् ।

प्रयुञ्जानो यथाकालं यथोक्तानुश्रुते गुणान् ॥ ६२ ॥

58. The boiling should be continued till the extract is exactly ten times the quantity of the oil ; this extract should be divided into ten portions, each portion should be boiled with the oil, one after the other.

59. At the tenth time, an equal quantity of goat-milk should be added, and the boiling completed.

This is the process for preparing *anutaila* for snuff.

60. Of this oil, half a pala (4 tolas) is the dose for taking it as snuff in three times, which should be done with a cotton pencil, the patient's head having been oiled and fomented.

61, 62. This should be done every 3rd day, and repeated 7 seven times.

If a person, while using such oil, capable of correcting the three disorders (of the bile, &c.) and strengthening the organs, should guard himself against exposure, keep himself warm, take proper food, and be continent, he will derive all its afore-mentioned benefits.

आपोधिताग्रं द्वौ कालौ कषायकटुतिक्तकम् ।

भक्षयेद्दन्तपवनं दन्तमांसान्यबाधयन् ॥ ६३ ॥

निहन्ति गन्धं वैरस्यं जिह्वादन्तास्यजं मलम् ।

निरुध्य रुचिमाधत्ते सदो दन्तविशोधनम् ॥ ६४ ॥

करञ्जकरवीरार्कमालतीकुभाशनाः ।

यस्मिन्ने दन्तपवने ये चोष्येवंविधा द्रुमाः ॥ ६५ ॥

सुवर्णरूप्यताम्राणि तपुशीसमयानि च ।

जिह्वानिलेखनानि सुरतीक्ष्णान्यनृजूणि च ॥ ६६ ॥

जिह्वामूलगतं यस्य मलमुच्छ्वासरोधि च ।

सौगन्धं भक्षते तेन तस्माज्जिह्वा विनिर्लिखेत् ॥ ६७ ॥

63. The tooth-brush stick should be either astringent, pungent, or bitter. One of its extremities should be bruized into the form of a brush. It should be used twice, and so that the gums are not injured.

64. It destroys faecal and bad taste; it removes sordes from the tongue, teeth, and mouth. It instantly cleanses the teeth. It improves the appetite.

65. Karanja (galedupa arborea), karavīra (करवी, nerium odorata), arka (आकम्), mālatī (मालती, kakubha (अर्जुन, pentaptera arjuna), āsana (pentaptera tomentosa), these and similar plants are recommended to be used in cleansing the teeth.

66. The tongue-cleanser should be made of gold, silver, copper, tin, lead, or iron, and should be made blunt and bent.

67. By the use of the tongue-cleanser, the secretions, that accumulate at the base of the tongue, and also those that obstruct the expiration, are removed, and thereby the mouth acquires

धार्द्यान्यास्येन वैशद्यश्चिसौगन्धराश्रिता ।

जातीकटुकपूगानां लवङ्गस्य फलानि च ॥ ६८ ॥

कक्कोलकफलं पत्रं ताम्बूलस्य शुभन्तथा ।

तथा कर्पूरनिर्घ्रासः सूक्ष्मैलायाः फलानिच ॥ ६९ ॥

हृनोर्वलं स्वरवलं वदनोपचयः परः ।

स्यात्परश्च रसज्ञानमन्त्रे च रुचिरुत्तमा ॥ ७० ॥

न चास्य कण्ठशोषः स्यान्नोष्ठयोः स्फुटनाङ्गयम् ।

न च दन्ताः क्षयं यान्ति दृढसूला भवन्ति च ॥ ७१ ॥

न शूल्यन्ते न चाग्नेन हृथ्यन्ते भक्षयन्ति च ।

खरानपि परान् भक्ष्यान् तैलगण्डूष धारणात् ॥ ७२ ॥

good smell. Hence the tongue should be cleansed by the tongue-cleanser.

68, 69. He, who desires to have cleanliness and good odour of the mouth and good appetite, should keep in it nutmeg, katuka (नतारुक्षुत्री), betel nut, cloves, kakkola, and good betel leaves, with camphor and small cardamoms.

70. He who rinses his mouth with oil, will have strength of the lower jaw, of the voice, fulness of the face, sharpness of taste, keenness of appetite,

71. And will never have dryness of the throat, never have any fear of cracking of the lips. His teeth will never wear out but will become more firmly set.

72. And will never be subject to aches, nor will be affected by acids, and they will be able to masticate hard substances.

नित्यं स्नेहार्द्रशिरः शिरः शूलं न जायते ।

न खालित्यं न पालित्यं न केशाः प्रपतन्ति च ॥ ७३ ॥

बलं शिरःकपालानां विशेषेणाभिवर्द्धते ।

दृढमूलाश्च दीर्घाश्च कृष्णाः केशा भवन्ति च ॥ ७४ ॥

इन्द्रियाणि प्रसीदन्ति सुत्वग्भवति चाननम् ।

निद्रालाभः सुखञ्च स्यान्मूर्ध्नि तैलनिषेवणात् ॥ ७५ ॥

न कर्णरोगा वातोत्था न मन्याहनुसंग्रहः ।

नोच्चैःश्रुतिर्न बाधिर्यं स्यान्नित्यं कर्णतर्पणात् ॥ ७६ ॥

स्नेहाभ्यङ्गाद्यथा कुम्भश्चर्म स्नेहविमर्दनात् ।

भवत्युपाङ्गादक्षश्च दृढः क्लेशसहो यथा ॥ ७७ ॥

तथा शरीरमभ्यङ्गादृढं सुत्वक् प्रजायते ।

प्रशान्त मारुता बाधं क्लेशव्यायामसंसहम् ॥ ७८ ॥

73. If the head is daily kept saturated with oil, there will be no headache, nor baldness, nor will the hairs turn grey, nor fall off.

74. The skull becomes particularly strong. The roots of the hairs become strong. The hairs become long and black.

75. If the head is anointed with oil, the senses become fully developed, the skin of the face becomes bright, and sleep is easily procured.

76. If oil is daily dropped into the ear, disorders of the organ from wind never take place, nor lockjaw nor rigidity of the neck will occur ; nor will hardness of hearing, nor even deafness.

77. Just as the earthen pot, and leather, and the wheel become strong and capable of resisting wear and tear, on being smeared with oil,

78. So the body becomes strong and good skinned, and dis-

स्पर्शने चाधिको वायुः स्पर्शनञ्च त्वमिच्छितम् ।

त्वञ्चः परमोऽभ्यङ्गस्तत्त्वानां शीलयेत्तरः ॥ ७९ ॥

नचाभिघाताभिहतं गात्रमभ्यङ्गसेवितम् ।

विकारं भजतेऽत्यर्थं बलकर्मणि वा क्वचित् ॥ ८० ॥

सुस्पर्शोपचिताङ्गश्च बलवान् प्रियदर्शनः ।

भवत्यभ्यङ्गनित्यत्वान्नरोऽल्पजरएव च ॥ ८१ ॥

खरत्वं शुष्कता चौराणां श्रमः सुप्तिश्च पादयोः ।

सद्य एवोपशाम्यन्ति पादाभ्यङ्गनिषेवणात् ॥ ८२ ॥

order from the wind are relieved, and it (the body) becomes capable of work and exercise.

79. The chief component part of the sense of touch is the wind ; the sense of touch is seated in the skin ; rubbing of oil is beneficial to the skin ; hence men should daily anoint their bodies with oil.

80. The body, if daily anointed with oil, is not easily disfigured by injuries or by any violent exercise.

81. And a person who daily anoints his body with oil acquires smoothness of skin, roundness of form, strength, a good appearance, and comparative immunity from the ravages of time.

82. Harshness, dryness, heat, and numbness from fatigue, of the feet are speedily relieved by rubbing oil.

(To be Continued.)

We have to tender our best thanks to the Editors of the following Periodicals for regularly exchanging with us:—

*The Indian Medical Gazette.*

*The British Journal of Homæopathy* (H. Turner & Co., London).

*The Monthly Homæopathic Review* (H. Turner & Co., London).

*The United States Medical and Surgical Journal.*

*The American Homæopathic Observer.*

*The Western Homæopathic Observer.*

"*The Homæopathic Sun*." (We have not received this Journal for a long time past.)

*The American Homæopathist.*

*The American Journal of Homæopathic Materia Medica.*

*The New England Medical Gazette.*

*El Criterio Médico* (Madrid).

*La Reforma Médica* (Madrid).

*La Homeopatía* (Bogotá).

*The Indo-European Correspondence.*

*The Hindoo Patriot.*

*The Bengalee.*

*The Indian Mirror.*

*The National Paper.*

*The Bengal Times* (formerly *The Dacca News*).

*The Daily Examiner.*

*Native Opinion* (Bombay).

*The Englishman : Saturday Evening Journal.*

*The Indian Daily News.*

*The Progress* (Tajpore).

*The Indian Post.*

*The Soma Prakasha* (Bengali).

*The Education Gazette* (Bengali).

*The Abala Bandhava* (Bengali).

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*The Bamabodhini Patrika* (Bengali).

*Ramayana* : Devanagar Text with Bengali Translation (publishing in series).

We shall be glad to exchange with any Medical Periodical in the world.

Books, &c., for review, to be sent, carriage paid, to the Editor direct.

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THE MATERIA MEDICA.

19.—BRYONIA ALBA (Concluded).

**Abdomen :—**

Bloatedness of the abdomen after every meal.

Hard swelling around the umbilicus, and under the hypochondria.

Sudden ascites ; he is unable to breathe, and has to sit down.

Soreness in the folds of the abdominal integuments, in the groin.

Tensive pain in the region of the liver.

Pain in the abdomen, as if one would vomit.

Pain in both sides of the abdomen, like pleuritic stitches.

Tearing and drawing in the abdomen, especially during motion ; followed by stitches especially during stool, and mostly in the evening.

Violent lancinations in the abdomen from below upwards as far as the stomach (after drinking a cup of warm milk, in the afternoon); the pain forced him to bend double; and disappeared after stool.

Painful writhing (twisting) around the umbilicus, with stitches.



Pain in the abdomen, with anguish, which makes the breathing difficult; walking relieved the pain.

The emission of flatulence, at night, is preceded by loud grunting and howling.

Flatulent colic after supper, with pressure in the region of the cœcum.

Pain in the abdomen, as if he had been purged, or as if hæmorrhoids would make their appearance.

Spasmodic pains in the abdomen after dinner.

Grunting (rumbling) in the abdomen, with sensation as if diarrhœa would set in.

Horrible colic (in the forenoon), as if she would have an attack of dysentery, without any stool.

Pressure on the umbilicus, as from a button, when walking in the open air.

Sensation deep in the abdomen, as of a lump lying there.

Heat in the abdomen, (and the whole of the internal body).

Pressure and pinching in the abdomen.

Loud rumbling in the abdomen, especially in the evening when in bed, for eighteen days.

Colic, as if he would be attacked with diarrhœa, for an hour and a half.

**Stool:—**

Colic and pinching in the abdomen, and the umbilical region, as after a cold, for several days; three days after the colic, a copious, thin evacuation.

Copious, fetid stool, preceded by cutting in the abdomen.

Bloated abdomen; flatulence moves about in his abdomen, colic with continual constipation; he feels as if something were lodged in his abdomen.

Colic during stool, as if the parts were constricted, or were being pinched together with the hand.

Two stools a day; in a few days, constipation.\*

Brown, frequent, thin stool in a baby.

Frequent evacuations.

The fæces are of a large size, and are therefore passed with difficulty.

Diarrhœa, with previous colic.

Long-lasting burning at the rectum after hard stool.

Soft stool, with a burning sharp pain in the rectum.

Itching, blunt stitches in the rectum from below upwards, coming on with a jerking sensation.

\* A more frequent, primary effect of *Bryonia* is retention of stool; its alternate effects, looseness of the bowels, is rarer; when the other symptoms correspond, *Bryonia* is therefore able to cure constipation, which few remedies, beside *Nux. v.* and *Opium*, can do.

Diarrhœa, without any trouble.

Diarrhœa, four days in succession, one attack every three hours ; it came so speedily that he was unable to retain it ; in the twelve succeeding days, the ordinary stool came off with the same unforeseen necessity.

Diarrhœa lasting two days ; it made her so weak that she was obliged to keep her bed.

Diarrhœa, greatest early in the morning.

Diarrhœa, especially at night ; with burning at the anus, at every evacuation.

Diarrhœa, smelling like rotten cheese.

Thin, bloody stool.

Hard stool, with protrusion of the rectum which soon re-entered of itself ; followed by diarrhœa with fermentation in the abdomen.

#### Urinary Organs:—

Pain in the abdomen, when emitting the urine.

Sensation, when urinating, as if the urinary passage were too narrow.

He is obliged to rise several times for the purpose of urinating.

Violent desire to urinate, also at night.

Without the bladder being full, he feels such a violent desire to urinate, that he is scarcely able to retain the urine for one moment.

After the urine has been emitted, the neck of the bladder contracts ; nevertheless he feels as if some urine would yet be expelled.

He is unable to retain the urine long, when he feels a desire to emit it ; if he does not emit it immediately, he feels as if it passed off spontaneously ; (nevertheless, no urine can be discovered when looking.)

During motion some drops of hot urine frequently escape from him without his being aware of it.

After urinating, there is a sensation in the bladder as if he had not emitted the whole of the urine ; some drops are involuntarily passed after the emission.

Urgent desire to urinate, and frequent emission of urine, when walking in the open air.

Itching, burning and stinging pain in the anterior portion of the urethra, between the acts of micturition.

Burning in the urethra.

(Aching in the urethra.)

Drawing and tearing in the anterior portion of the urethra, between the acts of micturition.

The urine is hot when being emitted.

Burning and cutting previous to the appearance of the urine.

**Genital Organs :—**

*Male.*—A few stitches in the testicles (immediately), when sitting.

Stinging and burning itching of the margin of the prepuce.

The glans is covered with itching of the red rash-granules.

*Female.*—Swelling of the left half of the labia majora, succeeded by a black, hard pustule of the size and shape of a pimple, without either pain or inflammation.

Bloated abdomen; there is a good deal of movement in it, and a good deal of pinching, as if the menses would make their appearance.

The menses appear in a few hours, sometimes eight, fourteen, twenty-one days too soon.\*

Increase of the menstrual flow.

Metrorrhagia, the blood being dark-red, with pain in the small of the back and headache.

(Colic of pregnant and lying-in females.)

(Burning pain in the uterus, during pregnancy.)

(Puerperal fever, particularly when the mammæ are turgid with milk.)

(Nodosities and indurations in the mammæ; inflammation of the mammæ, with suppression of the flow of the milk.)

(Induration of one of the nipples.)

(Milk fever, with rheumatic pains in the mammæ.)

(Galactorrhœa and complaints occasioned by weaning.)

**Cold, Catarrh :—**

Violent sneezing and yawning early in the morning.

Frequent sneezing, especially when moving the hand along the forehead.

Some hoarseness and an impure tone of voice, when walking in the open air.

A sort of hoarseness, accompanied by inclination to sweat.

Violent coryza, without any cough.

Violent coryza, rather dry.

Violent coryza, with stinging headache, as if the contents of the head would issue from the forehead, especially when stooping.

Dry cough, apparently coming out of the stomach, preceded by a creeping and tickling in the throat, from below upwards; one throws up mucus.

Continued, dry cough, especially early in the morning, with discharge of water from the mouth, like water-brash.

Nausea excites his cough.

Vomiting of the ingesta during a cough.

\* This is a primary effect; bryonia may, therefore, frequently be employed with success against hæmorrhage from the uterus.

Long-continued stitch, deep in the left hemisphere of the brain, when coughing.

Dry cough with retching : a few spasmodic, violent fits in the upper part of the trachea, which feels as if it were lined with a dry, hard mucus ; the cough is excited even by the smoke of tobacco.

Violent cough, early in the morning when in bed, continuing a quarter of an hour, and occasioning the expectoration of a quantity of mucus.

His chest is affected early in the morning ; his chest feels as if it were lined with mucus, which cannot be loosened easily.

Scraping and painful cough with retching, as if caused by roughness and dryness of the larynx.

Dry cough with retching, seated in the upper part of the trachea.

He coughs up coagulated pieces of blood, (or pure blood, or blood-streaked mucus.)

He hawks up yellow mucus from the fauces.

Stitches in the throat when coughing.

Stitches in the region of the last rib when coughing.

Stitches in the sternum when coughing ; he is obliged to hold his chest with the hand ; the stitches are likewise felt when feeling the parts.

Two attacks of sneezing during the cough.

Retching during the cough, without nausea.

Soreness in the pit of the stomach when coughing.

Pressure in the head, when coughing.

The coughing fit is immediately preceded by gasping for air, quick, spasmodic inspirations, as if the child could not draw full breath, and was not able to cough on that account ; a kind of suffocative fit, which is afterwards followed by cough, especially after midnight.

Violent fluent coryza, which obliged him to talk through the nose, constantly accompanied by chilliness, for eight days.

Retching ; it seems as if some kind of mucus were lodged in the trachea ; after some retching he experiences a sore and aching pain in the organ, which increases when talking or smoking tobacco.

When entering the warm room, from the cold air, a sensation in the trachea as if it contained smoke ; this obliges him to cough ; he feels as if he could not breathe air enough.

Tenacious mucus in the trachea which becomes loose only after much coughing.

Cough with expectoration, in the forenoon, four days in succession.

**Chest:—**

Pressure in the pit of the stomach, which oppresses her chest.

An excessive warmth in the region of the pit of the chest shortens her breath, with a kind of aching.

Burning pain in the right half of the chest.

Impeded respiration.

The breathing is shorter, the expirations are more hurried.

Asthma.

Attack of pleurisy and oppression of the chest for twelve hours.

Oppression of the chest : she felt a want of taking a deep inspiration (as if her chest were stopped up and she could not get breath); when attempting to take a deep inspiration, she felt a pain in the chest, as if something were expanded which would not admit of expansion.

Anxiousness, early in the morning, apparently from the abdomen, as if he had been purged, and as if the breathing were too short.

Quick, anxious, almost impossible breathing, owing to stitches in the chest, first behind the scapulæ, afterwards behind the muscles of the chest, impeding respiration, and obliging one to sit straight ; lastly stitches in the vertex.

Pressure over the whole chest.

Pressure in the upper part of the abdomen, as with the hands ; she imagines she is unable to walk in the open air, without feeling a pain in that part.

Aching in the middle of the sternum, also when breathing, the feet being icy cold.

Pressure upon the chest, as if it were oppressed by mucus, with stitches in the sternum when taking an inspiration ; this pressure appeared to decrease by eating.

Heaviness in the chest, and heaviness in the body, disappearing after a meal.

Stitches in the side in the region of the ribs, during an inspiration, coming on with a jerking sensation, and disappearing in the open air.

During an inspiration, stitch from the upper part of the chest, through the chest to the scapulæ.

When taking an inspiration, the ribs, towards the back, are affected with a tensive pain, which is changed to a dull stitch when taking a still deeper inspiration, especially behind the scapulæ, and especially when stooping.

At six o'clock in the evening, stitches in the chest, with oppression.

Momentary stitch in the left clavicle, followed by a simple pain.

When turning to the other side, in the bed, he felt a stitch in that side upon which he did not rest.

Stitches and pulsative throbbings in the lower part of the right half of the chest.

Stitching pressing in the chest, from within outwards.

At the least inspiration, a lancination, such as is felt in ulcers, in a small spot below the clavicle; the duration of the lancination corresponds to that of the inspiration; the small spot is painful like an ulcer, even when touching it, still more when raising the right arm, early in the morning.

Stitches in the chest when lying on the back aggravated by every movement.

Pain in the xiphoid cartilage, in the evening; when touched, it feels as if it were ecchymosed.

Pain over the whole chest, with oppression which passes off with the emission of flatulence, in the evening (nine o'clock).

Attack, as if the affection rose higher up, and deprived one of both breath and language.

- Compressive gripping in the chest, near the sternum.

Pain in the chest, close above the pit of the stomach, clawing, greatest when sitting on a chair, and stooping, and when lying on one side in the bed.

Stretching, extending across the chest from the short ribs.

Tension in the chest, when walking.

Palpitation of the heart, several days in succession.

Heat in the chest and face.

Sensation as if every thing were loose in the chest and fell down into the abdomen.

Clawing pressure behind the sternum, most violent when taking an inspiration or expiration.

Considerable swelling of the external chest in front.

Single, soft stitches in an indurated nipple, similar to the sensation created by electric sparks; after this, every trace of induration had disappeared.

Pricking pain below the right nipple from within outwards; in the cavity of the chest, these prickings are only felt during an expiration.

#### **Neck :—**

Tensive stiffness of the left side of the neck.

Rheumatic stiffness in that region of the neck which is near the nape of the neck.

Tension of the nape of the neck, when moving the head.

Soreness, during motion of the left side of the nape of the neck and the neck, the muscles of the face and the muscles of deglutition; the pain makes the turning of the head and mastication difficult and almost impossible.

Itching prickings of the neck, especially after having walked fast; they induce him to scratch the parts; after scratching they pass off.

Painful stiffness of the muscles on the right side of the nape of the neck towards the shoulder, when moving the head.

Pain in the nape of the neck, at its juncture with the occiput the pain is a painful weakness, as if the head were too weak.

Pain in the nape of the neck, as after a cold.

Painful weakness in the nape of the neck.

Painful stiffness and tension in the nape of the neck and neck on moving the head.

Drawing along the neck to the ear.

Painful soreness when turning the head, also in the nape of the neck, and in the muscles of the face and those of mastication during movement of those parts.

#### **Back:—**

Itching stitches, obliging him to scratch, and disappearing afterwards; red rash with biting itching; red spots on the side

Pressure between both scapulæ and on the opposite side of the chest in front, when sitting; the pressure went off by walking.

Spasmodic pain between the scapulæ, almost resembling a shuddering.

Transversely contractive pain over the whole back, as if he were tied fast with ribbons, the pain being almost cramp-like (from four o'clock in the afternoon to eight o'clock in the evening).

Drawing, down along the back, when sitting, going off by motion.

Painfully stinging jerking on both sides of the spine, when sitting, especially early in the morning and evening.

Painful stiffness in the small of the back not allowing him to walk straight.

Pain as from bruises, in the small of the back, when sitting, worst when lying down, not much felt during motion.

He is unable to stoop on account of a pain in the back and the lumbar vertebræ; it is a sort of tearing, and is felt more when standing than when sitting, but not when lying down.

Stitches in the lumbar vertebræ.

(Lumbago.)

Stitching pain in the small of the back, at night, for six hours.

Pains in the small of the back, making the walking very difficult.

Burning in the back.

Burning below and between the scapulæ.

#### **Superior Extremities:—**

Sweat in the axilla.

Creeping, as of a mouse, from the pit of the axilla to the hip.

Twitchings and jerkings in the deltoid muscle.

Sensation, as if a thread were being drawn through the humeri and radii down to the tips of the fingers.

Pressure on both humeri, which prevents him from falling asleep in the evening.

Nervous tearing from above downwards in the interior of the arms.

Aching and pressure on the top of the right shoulder, increasing in violence when touching the parts; dull stitches in that part, when taking a deep inspiration; they extend from before backwards, as far as the shoulder-joint.

Dull stitch across the shoulder, in the direction of the arm.

Pain as from a sprain, in the region of the acromion process, when raising the arms.

A sort of stitches in the upper arm, especially when raising it.

Swelling of the right humerus, down to the elbow.

Violent stinging in the left arm.

Stinging in the region of the olecranon process of the ulna, with drawing in the tendons down to the hand; when bending the elbow, the stinging becomes worse.

Swelling of the right elbow-joint, with stitches.

Swelling of the elbow-joint, extending a little beyond the joint above and below, as far as the middle of the upper and lower arm, with swelling of the feet, for three hours.

Tearing pain in the inner surface of the fore-arm, from the elbow to the wrist-joint.

Red rash-like eruption on the upper surface of the fore-arm.

Stitching pains in the wrist-joints, with heaviness of the joints.

He is unable to grasp something firmly with his hands.

Trembling and distended veins of the hands.

Tingling in the hand, as if it had gone to sleep.

Pain in the wrist-joint, as from contusion or a sprain, at every motion.

Fine stinging in the wrist-joint, when the hand gets warm and when one is at rest; it does not go off by motion.

Inflammation of the dorsum of the hand, with a burning pain, about midnight.

Hot feeling in the palms of the hands and the fore-arms; early in the morning she has to uncover them; in a few hours they feel cold.

The palm of the hand feels pithy and numb.

The little fingers of both hands have gone to sleep, as far as the wrist.

Sense of paralysis in the fingers.

Pain in the ball of the thumb, resembling stitches and cramp.

Somewhat hot, pale swelling of the last joint of the little finger; stitches in that joint when moving the finger and pressing upon it.

A pimple between the right thumb and index-finger, which,



when touched, causes a stinging pain, or stitches such as are felt in a wound.

Pain in the root of the little finger, as if there were pus in it.

Jerking tearing in the joints of the metacarpal bones and the phalanges, or shortly after in the joints of the last phalanges.

Involuntary twitchings of the fingers of both hands, during motion.

Stinging pains in the fingers when writing.

**Inferior Extremities:—**

A few stitches in the hip, as with a knife.

Pain as from bruises in the small of the back and the thighs.

Cramp-like pain in the small of the back, when sitting or lying; it comes and goes with a jerking sensation.

When lying on the small of the back it is painful, as if it were bruised.

Pain in the hip-joint, when lying down or sitting; it comes and goes like jerks or pushes, and decreases when walking.

When stooping while standing, lancinating darting pain from the hip-joint to the face.

Pain in the trochanter, stitch in making a mis-step, which causes one to start; throbbing in the trochanter when at rest; the place feels very painful when touched.

Dull painful lancinations in the hips.

Itching of the hips and thighs.

Tearing pain in the right thigh, when moving about.

Great weakness of the thighs; he is scarcely able to go up stairs; the weakness is felt less when going down stairs.

The thighs vacillate, especially when going up or down the stairs.

Great weakness of the thighs; it may even be felt when sitting.

Unsteadiness of the thighs and legs, and vacillation when going down stairs.

Drawing in the thighs as if the menses would make their appearance.

Early in the morning the thigh feels rigid, as if it were affected with cramp.

Stitch in the upper and anterior portion of the thigh.

Pain as from bruises in the middle of the thighs; when sitting, he feels a beating in that spot as with a hammer.

Cramp in the knee and the sole of the foot, when sitting, and in the night, when lying down.

Pain when going down stairs, as if the patellæ would break.

Weakness of the feet, when going up stairs.

Tensive, painful stiffness of the knees.

Pustule below the knee, which feels sore only when touched, and then becomes stinging.

A tearing and burning in the right knee.

The patellæ ache, as if they had been knocked loose.

An itching in the bend of the knee as when a sore is healing, that part being covered with sweat during the night.

Stitches in the knees when walking.

Pine, shooting stitchss in the bends of the knees, only during motion.

Dry eruption near and in the bends of the knees, itching in the evening and looking red, and causing a smarting pain after being scratched.

Weakness, especially in the knee-joints, (immediately.)

The knees vacillate and bend when walking.

Violent drawing pain in the leg, especially the calf, for one hour, with subsequent sweat.

- . Drawing pain in the tibiæ.

Eruption upon the legs, from which a humor oozes out.

Tearing and darting pain in the upper half of the tibiæ.

Twitchings in the leg at night; a jerking by day, as if caused by an electric stroke.

Cramp in the left calf early in the morning.

Cramp in the feet, in the dorsum of the foot and in the heel, in the night when lying in bed.

Cramp in the calf (contractive tightness) at night, going off by motion.

The legs feel so weak that they can scarcely support him, when beginning to walk, and also when standing.

Swelling of both legs. Sudden swelling of the legs.

Pain, as from bruises, in the outer side of the left calf, when moving and turning the foot, also when feeling it; numb feeling in that same region, when at rest, for many days.

Swelling, without any redness, of the lower half of the legs, except the feet, which are not swollen.

Lancinating tearing from the feet to the bends of the knees, less when at rest than during motion.

Pressure on the inner border of the left foot.

Tearing in the dorsum of the right foot, the first night.

Stitches in the feet.

Such violent stitches in the soles of both feet, that she was unable to tread upon the floor, with tension in the tarsal joints; nor was she able to lie down, owing to the tension and stitches in those parts.

Hot swelling of the foot.

Hot swelling of the bend of the foot, with a pain as from bruises when stretching the foot; tensive sensation of the foot when treading; when touching it, one experiences a pain from subcutaneous ulceration, or as if there were suppuration.

White pustules on the foot; they caused a pain like an ulcer,

the foot became red, and he was unable to walk from pain.

The swelling of the foot is accompanied by tearing in the tibiæ, and heaviness in the arms.

In the evening the feet feel tense and swollen.

Tension in the tarsal joint, when moving it.

Tensive pain in the dorsum of the foot, also when sitting.

For two nights in succession, immediately after lying down, she felt a hacking pain in the heel, a sort of dull stitches in quick succession one after another, for a quarter of an hour.

Prickings in both heels, early in the morning when in bed ; they pass off again after rising.

Pain in the feet, as if one had made a mis-step.

Stitches in the soles of the feet.

Stitches in the hollow of the sole of the foot, when treading.

Stitches as with a knife, in the sole of the left foot.

Pain in the hollow of the soles of the feet, when treading, as if they were pithy ; accompanied by tension.

Sensation of heaviness, and numbness in the feet, as if they were swollen.

Stitches and pressure in the ball of the big toe, with pain as if it were frozen.

Aching of the corn which had been painless heretofore, the pain is greatest when standing upon the foot.

Corns are painful like a sore, even when merely touched by the cover of the bed.

Lancinating pain in the ball of the right toe, increasing when sitting, decreasing when walking.

Stitches in the balls of the toes of both feet, towards evening ; he had to pull off his shoes.

The corn, which had been painless heretofore, was affected with a burning and stinging pain, only when slightly touched ; the pain ceased immediately when the part was strongly pressed upon.

Pain in the ball of the left toe, as if it were bruised.

#### **Sleep:—**

In one night he sleeps soundly until morning, and remains drowsy the whole day ; the next night, his sleep is uneasy, and the day after he remains wide awake the whole day.

When rising from bed, he feels faint, with cold sweat and rumbling in the body.

Disposed to yawn, frequent yawning the whole day.

Constant yawning before dinner, with much thirst.

Stretching of the limbs, (in the afternoon.)

Drowsiness immediately after dinner.

Great drowsiness, also by day, for several days in succession.

Continual inclination to sleep, for three days.

So sleepy, that he would like to sleep the whole day, for thirteen days in succession.

Great drowsiness by day, and great inclination to take a nap after dinner; when waking from it, all her limbs had gone to sleep.

A good deal of drowsiness by day, when he is alone.

Her hands and feet toss about in the night, until one o'clock, as if she felt anxious; she lies apparently without her senses, with cold sweat on her forehead and groans; afterwards she felt faint.

He cannot lie in his bed in the morning; every part of his body upon which he is resting, aches.

The blood is agitated at night; he falls asleep late and does not sleep soundly.

She tosses about in her bed until one o'clock at night; she is unable to fall asleep on account of a feeling of heat and anxiety; nevertheless she does not feel hot to the touch.

Sleeplessness on account of agitation of the blood and anguish (he had to rise from his bed;) one idea crowded upon the other, without any heat, sweat, or thirst.

Immediately after lying down, in the evening when in bed, feeling of heat and external heat all over the body, the whole night; he turns from side to side, but he dares not uncover himself in the least, lest he should be attacked with a violent colic, pinching stitches, or stitching pinchings, as if caused by spasmodically pressing flatulence, accompanied by sleeplessness brought on by a multitude of ideas that crowd upon him; this condition disappears in the morning, without his perceiving any flatulence.

For several nights in succession he is unable to sleep, from heat; the cover of the bed is too hot for him; when uncovering himself, he feels too cool, but without any thirst and almost without sweat.

He was unable to fall asleep; he was prevented by a warmth and agitation of the blood until midnight.

He is unable to fall asleep before two o'clock at night; he has to turn to and fro in his bed like a child whose sleep has been disturbed; he is yet very sleepy after waking.

She does not fall asleep till four o'clock in the morning, and then dreams about dead persons.

The child is unable to fall asleep in the evening; he leaves the bed again.

Sleeplessness before midnight.

He is unable to fall asleep before midnight, owing to frequent thrills of shuddering over one foot or arm; afterwards a little sweat.

She wakes in the evening, when in bed, after a short sleep; sensation in the pit of the stomach, as if the parts in that region

were twisted around something ; she has qualms of sickness, threatens to suffocate, she has to sit up.

Moaning when asleep, at three o'clock in the morning.

She starts in the evening, previous to falling asleep.

Startings while asleep, which wake him.

He starts up from anxious dream, and howls.

When waking, cannot get rid of his dream ; he continues dreaming, even while awake.

She wakes every hour in the night, and recollects the dream she has had ; when falling asleep again, she has another dream, which is just as vivid, and which she recollects just as clearly when awake.

Restless at night ; anxious dreams at three o'clock ; she utters cries when asleep.

Anxious dreams.

He dreams, while awake, that some one wants to break the windows.

Dreams full of dispute and vexations things.

Vivid dreams the whole night about attending to his business in a scrupulous and correct manner.

He dreams of his household affairs.

While dreaming she rises from her bed, at night, and goes to the door, as if she would go out.

While asleep he moves his mouth as if he were masticating.

He is delirious when waked from his sleep.

Nightly delirium.

Delirium, at day-break, about business which he has to attend to ; the delirium abates when the pain commences.

At ten o'clock, before midnight, the body being hot and covered with sweat (without any thirst,) he is tormented by a delirious fancy full of terrific images, such as : that soldiers are cutting him down ; that he was on the point of escaping from them ; (the delirium abated by uncovering himself and getting cool).

Towards evening, while asleep, she drew her mouth to and fro, opened her eyes, distorted them, and talked in delirium, as if she had been wide awake ; she spoke distinctly, but hastily, as if she imagined there were other people near her besides those present, cast open and free glances around ; spoke as with children who were not present, and wanted to go home.

One wakes early in the night.

He only sleeps before midnight, not afterwards ; remains wide awake ; feels great weariness when lying down, which increases in the legs after rising, but afterwards passes off soon.

Sleep does not refresh him ; he feels quite tired early in the morning when waking up ; the lassitude disappears when rising and dressing himself.

She sleeps the whole day, with dry, great heat, without eating or drinking, with twitchings in the face ; she has six involuntary stools, which are brown and smell badly.

Uneasy sleep with confused dreams ; he tosses from side to side.

Uneasy sleep, full of ideas.

Somnambulism.

Involuntary stools, at night, when asleep.

**Fever :—**

Shuddering in the afternoon ; afterwards heat with chilliness, the chilliness being on the chest and arms, (arms and hands were, however, warmer than usual) ; heat in the head, with pulsative pains in the temples, increasing in the evening ; no thirst either during the shuddering, the heat, or the chilliness.

Violent shudderings and chilliness through the whole body, as in fever and ague, obliging her to lie down, with a stitching pain in the left side above the hip, as if an abscess would form in that part, without any thirst or subsequent heat.

The inside of his head feels chilly and dreary after the siesta.

He is obliged to drink several times at night.

Headache, early in the morning, when waking.

Chilliness when waking.

Hands and feet feel dead and numb at night, icy cold ; they cannot be got warm ; they go to sleep.

He feels a coldness in his whole right side.

Chilliness about the arms.

Chilliness all over, the whole of the first day.

Chilliness towards evening.

Chilliness in the bed, in the evening when lying down.

Chilliness in the evening, previous to going to bed.

Chilliness in the open air, he dreads the air.

After returning from a walk in the open air, she is attacked with chilliness in the room ; she did not feel chilly in the open air.

Chilly feeling in the midst of a sudden, general heat.

Heat in the external ear, in the evening ; afterwards shuddering and chills in the lower limbs.

Fever : lying down, chilliness, yawning, nausea ; afterwards sweat without any thirst, from ten o'clock in the evening until ten o'clock in the morning.

Fever : in the forenoon, heat (with thirst ; ) in a few hours (in the afternoon) chilliness without any thirst, with redness of face and concealed headache.

She is attacked with a sudden, dry heat at every motion or noise.

Frequent attacks of heat of the lower limbs ; she felt as if she stepped into hot water.

Hot, red cheeks in the evening, and thrills of shuddering all over, with goose-skin and thirst.

Thirst followed by absence of all thirst, with cold hands and feet.

Her throat becomes slimy in the evening, and she feels thirsty.

Violent thirst, she is able and compelled to drink much at one time, and drinking does not incommode her.

Violent thirst, he had to drink a good deal of cold liquid, with internal heat, without feeling hot to the touch on the outside.

Great thirst, early in the morning, when rising.

The thirst increases from drinking beer.

Internal heat with unquenchable thirst.

An excessive warmth in the pit of the stomach gives her a good deal of thirst, (the dryness of the throat does not come from it.)

Heat without any thirst.

Thirst without any external heat.

Several attacks of dry heat over and over, early in the morning.

Dry heat at night.

Early in the morning the inside of his head feels hot ; the front of his head feels warm.

Heat in the head in the forenoon ; feeling as if the contents of the head would issue from the forehead.

Heat in the face towards evening.

Feeling of heat in the face, with redness and thirst.

Flushes of heat. Heat in the body (especially the abdomen).

A red, round, hot spot on the cheek, on the zygoma.

Great internal warmth ; the blood in the veins is burning hot.

Red urine.

He sweats easily, when exerting himself a little, also at night.

When walking in the open air, he sweats towards morning, especially on the feet.

Some sweat towards morning, after waking.

Sour-smelling, profuse sweat during a sound night-sleep.

At three o'clock in the night he is attacked with thirst previous to sweat ; afterwards sweat of a sweetish-sour smell and four hours' duration, previous to the termination of which he was attacked with an aching and drawing pain in the head, which left a dreary and muddled sensation in the head after rising.

He suddenly wakes at three o'clock in the night and perspires slightly ; this perspiration lasts until morning, during which the recumbent position is the most agreeable to him ; he sleeps but little ; the forepart of the mouth and the lips being dry, without any thirst.

Slight perspiration in the bed from evening till morning ; he sleeps only from twelve till three o'clock.

Anxious sweat, hindering sleep.

He sweats when eating.

Violent sweat of the whole body, also of the head, when lying in bed.

Sweat, which, when being wiped off, felt like oil, day and night.

Violent, warm sweat over the whole body, even the hair was dripping with sweat.

Violent night-sweat from three o'clock in the morning, twenty nights in succession.

**Skin:—**

Prickings over the whole body.

A slight emotion (laughter) excited a sudden stinging (itching) burning over the whole body, as if he had been whipped with nettles, or as if he had a nettle-rash, although nothing could be seen on the skin; afterwards he felt this burning when merely thinking of it or when becoming heated.

Burning itching and continued stitches in different parts, in the evening after lying down, in bed.

Itch-like eruption on the joints, on the inner side of the wrist-joint, in the bend of the elbow, and externally on the olecranon process of the ulna, also on the knee, externally, more than in the bend of the knee.

Eruption of rash on the arms, on the fore part of the chest, and above the knees, becoming red in the evening, itching and burning previous to her going to bed, but when in bed and getting warm, rash and itching disappear.

Pimples make their appearance on the abdomen and hips, with a burning itching; when scratching the parts they feel sore.

Eruption on the whole body, especially on the back, extending to the upper side of the neck, itching so violently that he would like to scratch the parts to pieces.

In the evening, griping and itching about the legs, knees and thighs; scratching brings on small, red, elevated pimples, causing a burning pain; after the pimples had made their appearance all the itching ceased.

Tearing itching just before falling asleep, during the day or in the evening, in different places of the soft parts of the body; or rather, searching, (grinding,) itching and burning stitches.



Titillation (by day) on the arms, hands and feet, with rash-like pimples.

Red, round spots, of the size of lentils, and larger ones on the arms, without sensation; they do not disappear by pressing upon them.

Red, small spots on the skin of the arms and feet, painful as if they had been caused by nettles; they disappear for moments when pressing upon them.

A sore, painless place begins to burn violently.

Smarting pain in the ulcer.

The ichor from the ulcer tinges the linen black.

The ulcer feels cold, and becomes painful, as if it had come in contact with cold air.

Smarting pain in the region of the scurf (ulcer) early in the morning after rising; increases when he stands; abates when sitting, and disappears when taking moderate exercise.

Throbbing, somewhat of the nature of stitches in the region of the scurf (after dinner).

Pain all over the body, as if the flesh were loose, for sixteen days.

Yellowness of the skin of the whole body, also of the face.

Red, elevated, rash-like eruption over the whole body, both in the mother and her baby; in the baby the eruption made its appearance at the end of two days, in the mother at the end of three.

Eruption on the abdomen and back as far as the nape of the neck, and on the fore-arms, smarting and burning before midnight and early in the morning.

He would not go into the open air, although he was fond of it previous to taking the drug.

She felt an anxiety in the room, relieved in the open air.

Single stitches in the toes.

#### **General Symptoms:—**

Pain as from bruises of the upper and lower limbs, even when lying down, greater when sitting than when walking; when lying down he had to change the position of his limbs constantly on account of this pain; but no matter what position he took, he always felt as though he would be more comfortable by changing it.

Every place of the body aches when touching it, as though it were bruised or as if there were subcutaneous ulceration, especially in the pit of the stomach, early in the morning.

All the limbs feel bruised and paralyzed in the evening, as if he had been lying on a hard couch.

A painless drawing to and fro in the affected part.

Nervous, drawing ache in the periosteum of all the bones, as in the beginning of fever and ague, in the forenoon.

Pressing in the whole body, especially on the chest.

Violent drawing through all the limbs.

He cannot bear keeping the affected limb still ; he moves it to and fro.

Visible twitching in arms and feet, by day.

When the pain abates, the part trembles, and the countenance becomes cold.

Stitches in the joints, when moving or touching them.

Stitches in the affected part, which made her start.

Stitches in the affected part when pressing upon it.

Painful throbbing in the arteries of the whole body.

She feels faint ; arms and feet ache ; after having worked a little, the arms feel faint as if they would drop ; when going up stairs, she can scarcely get along.

When walking, especially when rising from a seat, and in the beginning of a walk, unsteadiness of all the parts of the body, as if all the muscles had lost their power ; she felt relieved when continuing to walk.

When walking in the open air, she feels weakest.

He feels qualmish, when walking in the open air ; his lower limbs feel so faint and his head is so weak, that he imagined he would fall ; he pants, and a warmth is felt in the chest which rises to his head ; this symptom disappeared again in the open air.

When walking in the open air, she did not feel tired ; but when entering the room, she felt so tired that she was obliged either to sit or lie down.

Her strength disappeared on making the least effort.

Heaviness and weakness in all the limbs ; she is scarcely able to move her feet when walking, from mere heaviness.

The feet feel weary as if she had been running long.

His feet feel heavy as a hundred-weight after rising from a seat. Faintness. He feels very faint when sitting, less so when walking.

He imagines he feels better when walking.

In the morning he finds it difficult to rise ; he would like to remain in the bed, although he does not feel tired.

When waking from sleep, he feels very faint.

Shortly after walking from the siesta, all the symptoms are more distinct and intense ; he is out of humor.

General depression of strength.

Weakness of the lower limbs, obliging him to sit down.

Faint, lazy, and drowsy.

**Peculiarities :—**

[Remission of complaints during day.

Predominantly better in cloudy or wet weather, from warmth and warmth of bed, from cold diet, during rest, after lying down. while lying, particularly lying on back, or painful side, sitting, and standing, in a contracted position, after stool, after sweat, on empty stomach, in the evening twilight.

Predominantly worse in dry weather, from cold, in the open air during continued motion, when walking, after getting out of bed or rising from a seat, when lifting up the diseased limb, when stooping, when lying on unpainful side, from needle-work, from warm diet, before a thunderstorm, from light, particularly sun-light.—Gross's *Comp. Mat. Med.* by Hering.]

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## DR. CUNINGHAM'S REVIEW OF LOCAL SANITARY REPORTS FOR 1869.

Our notice of the above in our number for August last was not complete. We followed Dr. Cunningham as far as his review of the reports on cholera and small-pox. It now remains for us to notice the remaining portion taken up with the review of the reports on fever, the food supply of the people, and sanitary progress generally.

The mortality from fevers throughout India was greater even than that from cholera and small-pox combined. Now although the term fever is very vague and less understood by the uneducated than cholera and small-pox, the fact of this greater mortality from diseases returned as fever shows that in the year 1869, not only have fevers prevailed epidemically, but that other diseases must have shown a special tendency to febrile disturbance of the system. This is a fact of immense importance, and ought to suggest inquiry as to the cause which might have given rise to this state of things. Have our sanitary commissioners thrown any light upon this subject? Have they been able with any degree of accuracy to trace the prevalence of pyrexial epidemics to definite disturbances in the sanitary conditions of the country? In vain do we look for a satisfactory answer to this question. The sanitary commissioner of the North-Western Provinces, Dr. Planck, is of opinion that the fevers were due partly to excessive rainfall but chiefly to over irrigation from canals. He would, therefore, very earnestly counsel the gradual but certain establishment—

(A.) Of such measures as may conduce to a lessened amount of canal irrigation,—

1st by discouraging the cultivation of rice wherever it was not cultivated before canal irrigation was introduced, and, perhaps, the best way of doing this would be to increase the land tax so long as rice is cultivated on it ;

2nd to introduce some method of distribution which shall require an increase to the manual labor now required to place the water so that it may spread itself over the fields ;

3rd to encourage a return to the ancient form of irrigation from wells in all places where the water in the wells now stands at less than 10 feet from the surface at any time of the year.<sup>u</sup>

(B.)—Of such measures as may improve the town and village sites—

- 1st by raising them to the utmost possible extent, levelling and consolidating the surface ;
- 2nd by requiring return to irrigation from wells of the land for a certain distance around every town and village ;
- 3rd by draining permanent waterholes to the nearest *nuddee*, the earth removed from the necessary cutting being utilized for the improvement of the town or village site ;
- 4th by planting trees between any noted source of malaria and the town or village site : by removing trees where they stand too thickly and serve no good purpose.

Dr. Cunningham, while he admits the possibility of over-irrigation rendering previously healthy localities more subject to fever than they used to be, urges that such questions as the causes of epidemic fevers should not be looked at from a merely local point of view. He adduces the fact that the central Provinces and the Panjab also suffered very heavily from fevers, and that there were districts in them which had no canal running through them, but which suffered as much as Mozuffurnagar and Shaharanpur in the North-Western Provinces. The districts of Goordaspore and Hoshyarpore, in the Punjab, suffered equally heavily from fever, the deaths in the former being 21,824 out of a population of 906, 126, in the latter being 21, 344 out of a population 938, 890. Now Goordaspore has a canal running through it, whereas Hoshyarpore has none. If canal irrigation had been an invariable cause of fever, Goordaspore ought to have suffered more. Again, we have the testimony of Dr. Cornish, sanitary commissioner of the Madras Presidency, for the fact that "fever has been more prevalent and fatal in the districts of Bellary, Kurnool and Cuddapa for the past four years where there are no irrigation works to speak of, than in the Godavery district for the same time ; while the irrigated districts of Kistna, Tanjore and Trichinopoly have had a fever mortality of *fifty per cent.* below that of the dry districts just mentioned." This not only negatives the theory of canal irrigation being a cause of the prevalence of fever but leads to the very opposite conclusion.

Another supposed cause of fever is the late and heavy rainfall in certain districts. The fever epidemic of the Panjab, for instance, has been attributed by the Civil Surgeons to this circumstance. But the supposition is inconsistent with the fact that up to the month of August, when the epidemic was exceedingly

severe in many places, the rain-fall had actually been less than in previous years when no fever prevailed. The epidemic in the Central Provinces Dr. Townsend shows to have been coincident with the abundance of rain-fall in the months of September and October. But Dr. Cunningham is not inclined to look upon this coincidence in any other light than accidental.

The mere circumstance of over-irrigation from canals, or of late and heavy rainfall, is not enough, therefore, to account for the great prevalence of fever throughout India in the year 1869. We must look beyond the surface of those casualties in order that we might be able to trace the effect to its true cause. And it is a matter of regret that none of our local sanitary commissioners felt the necessity or the importance of such an investigation, and that neither has Dr. Cunningham, while alive to the necessity of looking at the question from a broader and more general point of view than attending to mere local accidents, indicated the direction which such inquiries ought to take.

The physical geography of India has been more rapidly changing since the advent of a more civilized and civilizing race than before. And this is not a matter to be surprized at. The vast engineering operations going on throughout the length and breadth of the land,—the connecting of distant places by wire and rail, the bridging of rapid currents, the diverting of natural streams into artificial channels, the felling of forests, the digging of mines, &c., &c.,—all these are quite competent to alter the aspect of the country, and thereby induce profound changes in its climatology, and thereby again in the health of its inhabitants. So that the sanitarian must have an eye upon these changes in the physical geography of the whole country before he can hope to fulfil his most responsible functions faithfully and well. The statistics of disease of a particular year with the meteorological record of that year is not enough to enable one to arrive at a satisfactory conclusion regarding the cause or causes of a particular epidemic that might have prevailed in that year. Nor, in fact, any one local change or accident, however coincident it might have been with the outbreak of a particular disease, can be deemed the cause of that disease, far less the cause of similar diseases occurring elsewhere.

With reference to fevers prevailing epidemically, as far as our own observation of the Bengal Epidemic goes, we are almost

positive that wherever the natural drainage of a locality has been interfered with, either by artificial or by natural causes, there it has been followed by the outbreak of fever, the virulence of which is in proportion to the suddenness of the interference, the want of new sources of drainage, and the previous healthiness of the place. Whether the outbreak of fever is due to the consequent increased humidity of the soil, or to changes in its electrical state, it is impossible, with the paucity of data at present available, to determine with any degree of accuracy. That it cannot be due to simple increase of humidity is borne out by the fact of the fever stricken localities returning to their former healthiness after a few years. It is a notorious fact that the epidemic of fever in a locality does not last for ever but runs a definite course, its duration varying in different places, and generally ranging from two to ten years. The gradual return to salubrity is almost without any evident cause. It cannot be, as some have imagined, simply apparent and not real, the people getting accustomed, as it were, according to these theorists, to the altered sanitary conditions; for not only do the inhabitants of these localities enjoy immunity from relapses but people from healthy localities are not affected by residing in them.

As to the true nature of the fever epidemic of 1869, Dr. Cunningham, in opposition to the views of Dr. De Renzy, sanitary commissioner of the Panjab, is strongly inclined to think that it was malarious. Dr. De Renzy's reasons for refusing to believe in the malarious nature of the fevers are, as far as we can gather, chiefly two. The first is based upon the supposition that malarious fevers or agues are diseases of moist and marshy places. Now Rawal Pindee stands on high ground and has excellent drainage, but it suffered very severely from fever. Hence, argues Dr. Renzy, the Rawal Pindee fevers, at least, could not have been malarious. The second is based upon Dr. Morehead's statistics of mortality from malarious fevers, according to which it is only 1.33 per cent of attacks. Now the mortality in the districts of the Panjab from fevers in 1869 was much greater than this figure. Therefore, according to Dr. Renzy, these fevers could not have been of malarious origin. Now we think it is a mere gratuitous assumption that malarious fevers are diseases which are confined to what are ordinarily looked upon as marshy places. In our opinion any porous soil

capable of retaining moisture may become a marsh so far as its capacity of giving rise to fevers is concerned. Dr. De Renzy's argument would have been cogent if he had satisfied himself that the natural drainage of Rawal Pindee, which is excellent, had not been interfered with by either some natural or artificial causes. But in absence of such evidence we cannot accept his views as established. Again, the second argument of Dr. De Renzy seems to us a most lame one. Admitting that Dr. Morehead was right in his calculation, as far as his own observations go, it does not follow that mortality from malarious fevers making their sudden appearance in other localities might not have been much heavier for the very suddenness of the outbreak and the previous salubrity of those localities. Our experience of the Bengal Epidemic, which has been raging for a long time past, shows that the mortality from malarious fevers, especially when recent and when no medical treatment is available, is much higher than Dr. Morehead's figure. "Good medical treatment, no doubt," admits Dr. De Renzy, "largely reduces the mortality from disease, but on the assumption that the death-rate was even double that given by Dr. Morehead, the proportion prostrated by fever must have been so large as to bring the business of the country to a stand-still." "But, as a matter of fact," as Dr. Cunningham shows, "the business of the country *was* for a time seriously interrupted."—"When I visited Rawal Pindee in November 1869, I found that I could not carry out my intention of going to Murree, because the Post Office cart had ceased running for the season, and the bearers were prostrated by fever."—"At Mean Meer, in the month of October, among the native soldiers, as a matter of fact, there were 869 admissions into hospital from fever out of a strength of 1,386, much more than one-half. Among the European troops the admissions were 486 out of 922."—&c., &c.

Thus the opinion of Dr. De Renzy, that the fever epidemic of 1869 could not have been of malarious origin, falls to the ground. But neither can we endorse the opinion of Dr. Cunningham that it *was* of malarious origin. In absence of other data which Dr. Cunningham has not been able to gather, this view would be premature. The characters of the cases alone could decide in this matter. The tendency to recur and the



affection of the spleen in the later stages or the chronic forms, are, as far as we can venture to pass an opinion, the only tests of the malarious nature of any single case, or series of cases. But it is not easy to distinguish between the different varieties of fever at their early stages, especially when they are of a violent nature. Fevers, like similar curves, touch each other in their nascent stage, that is they are so like each other that they can hardly be distinguished. It is only in very mild cases, or when they become chronic, or when the epidemic virulence passes off, that their true nature can be understood and defined. Hence it is of the highest importance for the sanitarian to most narrowly watch all cases and in all their stages, and this, we are sorry to find, has not been done by any of our local sanitary commissioners.

The food supply of the people is a most important item to be taken into consideration in discussing the etiology of diseases prevalent in any locality. Next to the air that we breathe and the water that we drink, is the food that we take in its importance on the genesis of the diseases with which we are afflicted. We have often observed that what is looked upon as an epidemic of cholera has, in many instances, resulted from the use of new rice, neither the drinking water nor the atmosphere being at fault. The influence which food exerts in predisposing to, or exciting disease, is referrible to its quantity and quality. It is, therefore, of absolute importance that the sanitarian should take note of both these circumstances. And it is a matter of no small surprize that only one of our many local sanitary commissioners should have felt and acted up to the importance of this fact.

The honorable exception we allude to is Dr. Townsend of the Central Provinces, "who," says Dr. Cunningham, "has devoted a special section to the consideration of the food supply of the people, and the information which it contains is not only full of interest, but has a very important bearing on the sanitary history of the year. In the other annual reports," complains Dr. Cunningham, "the subject does not receive the attention it deserves; in some it is passed by altogether, in others only incidental mention is made of it, and yet there can be very little doubt that the famine in 1869, the effects of which were felt far beyond the area in which the crops had failed, had no small

influence in favoring the spread of the great sickness of the year and in determining the excessive mortality which it occasioned." This is certainly a most serious, we had almost said, a most unpardonable defect in our sanitary reports, and we trust the disapprobation Dr. Cunningham has expressed will serve to remedy it in future. No sanitary report ought to be deemed worthy the name which does not take note of the food-supply of the people.

With reference to the item of the history of the progress of sanitation, our sanitary commissioners are more reticent than even upon the food-supply of the people. It is only Dr. De Renzy of the Panjab who has devoted a special section on the subject in his report. The others have not touched upon it at all. But it is easily seen that this is a matter of great importance. The review of the past will always suggest reforms for the future. Besides such a review of sanitary progress is necessary to impress upon the minds of the people the necessity of such reforms, by showing the connection of improved health and improved sanitary measures. The education of the people in such matters is of greater importance even than the actual carrying out of sanitary improvements. Sanitation can never be effectual unless it is appreciated by the humblest man in town and village.

Dr. Cunningham concludes his review by laying down a plan which he requires all local sanitary commissioners to adopt in drawing up their reports. The plan is excellent and the remarks under the several heads judicious. We have no doubt that the adoption of the plan in the way pointed out by the remarks will give rise to that uniformity in the sanitary reports which is necessary for scientific comparison and which alone can enable one to draw correct inferences and arrive at sound conclusions regarding the most important but in proportion most difficult problem of sanitation.

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## MR. CROOKES'S "PSYCHIC FORCE."

WE publish under our *Gleanings* a paper contributed by Mr. Crookes in the July number of the *Quarterly Journal of Science*, containing an account of experiments which, in his opinion, are fully entitled to justify him in proclaiming to the world the discovery of a new force, and which he has christened the "psychic force." As will be seen, the experiments were conducted in the presence of two gentlemen fitted by their attainments in science to detect any flaw or imposture that might have existed in them. We have carefully gone over the account of these experiments and we have no hesitation in saying that if the account is a faithful one, they certainly are very staggering and disturb our existing notions.

The subject of the existence of a power or force such as these experiments seem to reveal, is not new in the history of the world. We might almost say that ever since the advent of rational man on the stage of existence, the power has been manifested in one form or another, and forced itself upon the attention of the ignorant and the learned, but has not hitherto been made the subject of scientific research and experiment. It has always been implicitly believed in by the ignorant and looked upon with suspicion by the learned. By the former it is referred to supernatural agency, by the latter to imposture. The fact is that the possessors of the power would seem to have not only imposed upon their fellowmen, but upon themselves. They never suspected that the power was in themselves, an actual result of their own organization, but always believed, no doubt from the extraordinary nature of the power itself, that it was a gift from some superior being. Hence the superstition of the illiterate and the uneducated and the scepticism of the philosopher. 'It is no wonder, then, that in these days of scientific progress, the subject should not only have fallen into utter neglect, but should be looked upon with especial disfavor by men of science.

Mr. Crookes promises further experiments on the subject, and should he succeed in establishing the existence of the force in question, we shall be in possession of a light by which to explain many phenomena, which are undoubtedly genuine, but which we either laugh at outright, or in presence of which our judg-

ment stands bewildered. Further, we shall be in possession of a power of the most exalted description conceivable, and which will be well worth cultivating and using for "the glory of the Creator and the relief of man's estate." For verily, if such a power is proved to be in the possession of some one of our species, it will afford a presumptive evidence in favor of its being in the possession of all, the quantity only varying in different individuals, some possessing it in the extraordinary amount possessed by Mr. Home, others in lesser degrees, and others not in appreciable quantity at all. And this power must be capable of cultivation. For if it really exists, there must be conditions of its increase and decrease, growth and development, and hence it must be amenable, so to speak, to education. Mr. Crookes says that the power does not exist in Mr. Home in equal intensity at all times. The animal organism and its individual organs do not act with equal vigour in all periods. There is variation in all our functions according to many circumstances and accidents. The periods of the day and the seasons of the year are known to exert remarkable influences upon the various functions, and we have hence what have been very aptly called "physiological periodicities." The fact of such periodicities is established, and the great desideratum of medicine and of science in general is to determine their laws. It is no wonder that the "psychic force" should be subject to the laws of physiological periodicity. And it is not difficult to understand Mr. Crookes's statement regarding the periodical manifestations, or periodical maximum and minimum, of Mr. Home's "psychic force."

With reference to the name Mr. Crookes has used to designate the force in question, we are inclined to think that it is not perfectly accurate because not sufficiently connotative. The word "psychic force" is applicable to any force which the mind possesses, and in our humble opinion, the mind possesses more than one force. Each faculty may be looked upon as representative of a peculiar property or force of the mind. Scientific exactitude requires that we should ascertain the nature of the force in question and name it accordingly. As far as we can understand, we are of opinion that the "psychic force" is no other than the force of volition or the will-power as it is called by spiritualists. We almost suspect that Mr. Crookes has avoided this simply to

remove all suspicion of his being in league with spiritualists. For there is much in a name in spite of the poet. In this particular instance, if we admit the force in question to be nothing but the force of volition, much of the obscurity that shrouds the subject is cleared up. For then we see that it is a force or power which every one possesses, and that the experiments inaugurated by Mr. Crookes refer only to a peculiar mode or condition of its manifestation.

What are called voluntary movements, whether psychical or physical, that is, whether directed towards the faculties of the mind itself, summoning their attention to particular subjects, or directed to the locomotor system causing their various mechanical movements, are due to the action of a force which emanates from the will, and which is transmitted through the agency of nerves. Now it seems to be an essential condition of the production of movements in external objects by the will that this should be done through the agency of the locomotor system which again should be in *actual* contact with the object intended to be moved. Now if we remember that what is looked upon as *actual* contact is not in reality so, but that there is some intervening space, however infinitesimal, between two objects said to be in contact with each other, much of the difficulty which at first sight appears formidable seems to be removed, and the problem which Mr. Crookes intends solving reduces itself to this: Whether the force which emanates from the will can act upon external objects through some appreciable distance. Thus stated, there is nothing absurd or impossible in the problem, and hence the pursuit of its solution by experiment is neither waste of energy and talent, nor imposture.

Mesmerism is a fact, and we see by its light that the will of one individual can influence without direct contact the nervous system of another so as to lull it into perfect inaction. There can be no doubt that some influence or properly speaking some force passes from the mesmerizer through the medium of the air to the mesmerized. The exhibition of the force possessed by Mr. Home is but a step in advance of mesmerism. The analogies of inorganic nature are also in favor of these manifestations. Electricity passes easily through conducting media, but when of sufficient intensity or tension, it will pass through what are look-

ed upon as non-conducting media, or properly speaking bad conductors. And we do not see any especial absurdity in the supposition that the motive force of the will, of which the best conductor is the nerves, may pass, when of sufficient intensity, through a bad conductor such as air to a solid body. We of course do not mean to establish the existence of the force in question or the fact of its peculiar manifestation on the strength of these analogies, but we cite them merely to show there is no inherent absurdity in the question on the tapis, and that it cannot be beneath the dignity of scientific men to entertain it and attempt to solve it.

But even if not backed by such analogies, men of science would not be justified to "refuse instituting a scientific investigation into the existence and nature of facts asserted by many competent and credible witnesses, and which they are freely invited to examine when and where they please." This certainly, as Mr. Crookes justly says, "argues ill for the boasted freedom of opinion among scientific men." We ought not to withdraw from the investigation of any phenomenon, simply because it seems to clash with existing knowledge. Anything new, as far as our own knowledge is concerned, must necessarily clash with that knowledge, otherwise it could not be *new*. This is the history of all discoveries properly so called, and the opposition they used to meet with was invariably on the ground of their novelty.

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## CLINICAL RECORD.

*A Case of Fever with Symptoms of Apoplexy.*

UNDER CARE OF BABU BEHARY LAL BHADURI, L. M. S.

Babu G. N. Banerjee aged 20 years was attacked with fever on the 23rd of July last and was treated by a medical man with purgatives and quinine. He was apparently recovering when all on a sudden, on the 8th day of his illness, at 2 p. m., he was seized with convulsions. I was called in at 3½ p. m. and found the patient as follows—

He was perfectly unconscious and was lying on his back ; head hot ; eyes bloodshot and staring, pupils dilated and insensible to the action of light, tongue dry and coated, white in the middle with slightly red margins, breathing a little hurried ; abdomen full, no urine in the bladder, having evacuated it unconsciously during the convulsions, some rigidity of the extremities and constant jaclitation ; pulse full but slow ; temperature of the body normal ; auscultation revealed nothing abnormal in the chest.

I had a great mind to treat the case homœopathically, but some of the patient's friends being very much opposed to the system I was obliged to follow the rules of the prevalent school. Accordingly I ordered the head to be shaved and cold to be applied, and prescribed at the same time a medicine to act upon his bowels. At 9 p. m. the patient was worse and his pulse was failing, 120 a minute. Gave a mixture containing vin. gallici, and ordered a blister to be applied to the cap of the head. I saw him again at 12 midnight, but he was not the least better under the treatment I was in a manner compelled to adopt. I was for a while undecided as to how to act, but feeling the necessity of the moment I at once decided to have recourse to homœopathy as the only means to bring the patient back to life. Of his numerous friends of the afternoon (most were outsiders) only two women were remaining to administer to his wants. Fortunately they knew the advantages of homœopathy and gave their consent to the change of treatment. I prepared a few doses of belladonna 6th and ordered a dose to be given every 3 hours. At 5 a. m. he was decidedly better, but some stertor having appeared in the breathing I substituted opium in place of belladonna. In the morning (31st July) I communicated to the patient's other friends the change of treatment and its reason, and insisted upon them to call in Dr. Sircar for consultation. He arrived at 11 a. m. and approved of what I had done, but recommended in addition inhalation of opium in mother tincture. No further improvement was visible till the evening, and I stopped opium inter-

nally, only continuing the inhalation now and then. Dr. Sircar again called at 8½ p. m. and told me to be careful as he was afraid untoward symptoms might appear in the course of the night. The patient continued in the same state till midnight when all his previous symptoms again appeared with increased violence, I at once resumed belladonna and in the morning (1st August) had the satisfaction of noticing signs of reviving consciousness. The vacancy of his look was almost gone and he could put out his tongue when told to do so. Dr. Sircar saw him at 10 a. m. and desired me to continue the medicine till perfect consciousness was restored. In the evening the patient was in as favorable a position as could be desired, and I thought it was time to discontinue all medicine. The night was passed without any further disturbance, but some irritability of temper being manifest in the morning (2nd August) two more doses of belladonna were given. No more medicine was repeated till the evening of the 3rd when the patient complained of a little uneasiness of his bowels and a dose of nux v. was given to relieve him; the next morning he passed a very healthy stool (his bowels had remained unopened since the beginning of the homœopathic treatment) and felt as comfortable as possible. From this time his improvement was very rapid, and by the 6th he was pronounced perfectly cured.

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**Gleanings from Contemporary Literature.****EXPERIMENTAL INVESTIGATION OF A NEW FORCE.**

BY WILLIAM CROOKES, F. R. S., &amp;c.

TWELVE months ago in this journal\* I wrote an article, in which, after expressing in the most emphatic manner my belief in the occurrence, under certain circumstances, of phenomena inexplicable by any known natural laws, I indicated several tests which men of science had a right to demand before giving credence to the genuineness of these phenomena. Among the tests pointed out were, that a "delicately poised balance should be moved under test conditions;" and that some exhibition of power equivalent to so many "foot-pounds" should be "manifested in his laboratory, where the experimentalist could weigh, measure, and submit to proper tests." I said, too, that I could not promise to enter fully into this subject, owing to the difficulties of obtaining opportunities, and the numerous failures attending the enquiry; moreover, that "the persons in whose presence these phenomena take place are few in number, and opportunities for experimenting with previously arranged apparatus are rarer still."

Opportunities having since offered for pursuing the investigation, I have gladly availed myself of them for applying to these phenomena careful scientific testing experiments, and I have thus arrived at certain definite results which I think it right should be published. These experiments appear conclusively to establish the existence of a new force, in some unknown manner connected with the human organisation, which for convenience may be called the Psychic Force.

Of all the persons endowed with a powerful development of this Psychic Force, and who have been termed "mediums" upon quite another theory of its origin, Mr. Daniel Dunglas Home is the most remarkable, and it is mainly owing to the many opportunities I have had of carrying on my investigation in his presence that I am enabled to affirm so conclusively the existence of this Force. The experiments I have tried have been very numerous, but owing to our imperfect knowledge of the conditions which favour or oppose the manifestations of this force, to the apparently capricious manner in which it is exerted, and to the fact that Mr. Home himself is subject to unaccountable ebbs and flows of the force, it has but seldom happened that a result obtained on one occasion could be subsequently confirmed and tested with apparatus specially contrived for the purpose.

Among the remarkable phenomena which occur under Mr. Home's influence, the most striking as well as the most easily tested with scientific

\* See Quarterly Journal of Science, vol. vii., p. 319, July, 1870.

accuracy are—(1) the alteration in the weight of bodies, and (2) the playing of tunes upon musical instruments (generally an accordion, for convenience of portability) without direct human intervention, under conditions rendering contact or connection with the keys impossible. Not until I had witnessed these facts some half-dozen times, and scrutinised them with all the critical acumen I possess, did I become convinced of their objective reality. Still, desiring to place the matter beyond the shadow of a doubt, I invited Mr. Home on several occasions to come to my own house, where in the presence of a few scientific enquirers, these phenomena could be submitted to crucial experiments.

The meetings took place in the evening, in a large room lighted by gas. The apparatus prepared for the purpose of testing the movements of the accordion, consisted of a cage, formed of two wooden hoops, respectively 1 foot 10 inches and 2 feet diameter, connected together by 12 narrow laths each 1 foot 10 inches long, so as to form a drum-shaped frame, open at the top and bottom; round this 50 yards of insulated copper wire were wound in 24 rounds, each being rather less than an inch from its neighbour. These horizontal strands of wire were then netted together firmly with string, so as to form meshes rather less than 2 inches long by 1 inch high. The height of this cage was such that it would just slip under my dining table, but be too close to the top to allow of the hand being introduced into the interior, or to admit of a foot being pushed underneath it. In another room were two Grove's cells, wires being led from them into the dining-room for connection if desirable with the wire surrounding the cage.

In another part of the room an apparatus was fitted up for experimenting on the alteration in the weight of a body. It consisted of a mahogany board, 36 inches long by  $9\frac{1}{2}$  inches wide and 1 inch thick. At each end a strip of a mahogany  $1\frac{1}{2}$  inches wide was screwed on, forming feet. One end of the board rested on a firm table, whilst the other end was supported by a spring balance hanging from a substantial tripod stand. The balance was fitted with a self-registering index, in such a manner that it would record the maximum weight indicated by the pointer. The apparatus was adjusted so that the mahogany board was horizontal, its foot resting flat on the support. In this position its weight was 3 lbs., as marked by the pointer of the balance.

Before Mr. Home entered the room the apparatus had been arranged in position, and he had not even had the object of some of it explained before sitting down. It may, perhaps, be worth while to add, for the purpose of anticipating some critical remarks which are likely to be made, that in the afternoon I called for Mr. Home at his apartments, and when there he suggested that as he had to change his dress, perhaps I should not object to continue our conversation in his bed room. I am, therefore, enabled to state positively, that no machinery, apparatus, or contrivance of any sort was secreted about his person.

The investigators present on the test occasion were an eminent physicist, high in the ranks of the Royal Society, whom I will call Dr. A. B.; a

well-known Serjeant-at-Law, whom I will call Serjeant C. D. ; my brother ; and my chemical assistant.\*

Mr. Home sat in a low easy chair at the side of the table. Close in front under the table was the aforesaid cage, one of his legs being on each side of it. I sat close to him on his left, and another observer sat close on his right, the rest of the party being seated at convenient distances round the table.

For the greater part of the evening, particularly when anything of importance was going forward, the observers on each side of Mr. Home kept their feet respectively on his feet, so as to be able to detect his least movement.

The temperature of the room varied from 68 to 70 F.

Mr. Home took the accordion between the thumb and middle finger of one hand at the opposite end to the keys (to save repetition this will be subsequently called "in the usual manner.") Having previously opened the bass key myself, and the cage being drawn from under the table so as just to allow the accordion to be passed in keys downwards, it was pushed back as close as Mr. Home's arm would permit, but without hiding his hand from those next to him. Very soon the accordion was seen by those on each side to be waving about in a somewhat curious manner ; then sounds came from it, and finally several notes were played in succession. Whilst this was going on, my assistant got under the table, and reported that the accordion was expanding and contracting ; at the same time it was seen that Mr. Home's hand which held it was quite still, his other hand resting on the table.

Presently the accordion was seen by those on either side of Mr. Home to move about, oscillating and going round and round the cage, and playing at the same time. Dr. A. B. now looked under the table, and said that Mr. Home's hand appeared quite still whilst the accordion was moving about emitting distinct sounds.

Mr. Home still holding the accordion in the usual manner in the cage, his feet being held by those next him, and his other hand resting on the table, we heard distinct and separate notes sounded in succession, and then a simple air was played. As such a result could only have been produced by the various keys of the instrument being acted upon in harmonious succession, this was considered by those present to be a crucial experiment.

\* It argues ill for the boasted freedom of opinion among scientific men, that they have so long refused to institute a scientific investigation into the existence and nature of facts asserted by so many competent and credible witnesses, and which they are freely invited to examine when and where they please. For my own part I too much value the pursuit of truth, and the discovery of any new fact in nature, to avoid enquiry because it appears to clash with prevailing opinions. But as I have no right to assume that others are equally willing to do this, I refrain from mentioning the names of my friends without their permission.

But the sequel was still more striking, for Mr. Home then actually let go the accordion, removed his hand quite out of the cage, and placed it in the hand of the person next to him, the instrument then continuing to play whilst no one was touching it.

I was now desirous of trying what would be the effect of passing the battery current round the insulated wire of the cage, and my assistant accordingly made the connection with the wires from the two Grove's cells. Mr. Home again held the instrument inside the cage in the same manner as before, when it immediately sounded and moved about vigorously. But whether the electric current passing round the cage assisted the manifestation of force inside, it is impossible to say.

The accordion was now again taken without any visible touch from Mr. Home's hand, which he removed from it entirely; 1 and two of the others present not only seeing his released hand, but the accordion also floating about with no visible support inside the cage. This was repeated a second time, after a short interval. Mr. Home presently re-inserted his hand in the cage and again took hold of the accordion. It then commenced to play, at first chords and runs, and afterwards a well-known sweet and plaintive melody, which it executed perfectly in a very beautiful manner. Whilst this tune was being played, I took hold of Mr. Home's arm, below the elbow, and gently slid my hand down it until I touched the top of the accordion. He was not moving a muscle. His other hand was on the table, visible to all, and his feet were under the feet of those next to him.

Having met with such striking results in the experiments with the accordion in the cage, we turned to the balance apparatus already described. Mr. Home placed the tips of his fingers lightly on the extreme end of the mahogany board which was resting on the support, whilst Dr. A. B. and myself sat, one on each side of it, watching for any effect which might be produced. Almost immediately the pointer of the balance was seen to descend. After a few seconds it rose again. This movement was repeated several times, as if by successive waves of the Psychic Force. The end of the board was observed to oscillate slowly up and down during the time.

Mr. Home now of his own accord took a small hand-bell and a little card match-box, which happened to be near, and placed one under each hand, to satisfy us, as he said, that he was not producing the downward pressure. The very slow oscillation of the spring balance became more marked, and Dr. A. B., on watching the index, said that he saw it descend to  $6\frac{1}{2}$  lbs. The normal weight of the board as so suspended being 3 lbs., the additional downward pull was therefore  $3\frac{1}{2}$  lbs. On looking immediately afterwards at the automatic register, we saw that the index had at one time descended as low as 9 lbs., showing a maximum pull of 6 lbs.

In order to see whether it was possible to produce much effect on the spring balance by pressure at the place where Mr. Home's fingers had been, I stepped upon the table and stood on one foot at the end of the board. Dr. A. B., who was observing the index of the balance, said that the

whole weight of my body (140 lbs.) so applied only sunk the index  $1\frac{1}{2}$  lbs., or 2 lbs. when I jerked up and down. Mr. Home had been sitting in a low easy-chair, and could not, therefore, had he tried his utmost, have exerted any material influence on these results. I need scarcely add that his feet as well as his hands were closely watched by all in the room.

This experiment to me appears, if possible, more striking than the one with the accordion. As will be seen on referring to the cut, the board was arranged perfectly horizontally, and it was particularly noticed that Mr. Home's fingers were not at any time advanced more than  $1\frac{1}{2}$  inches from the extreme end, as shown by a pencil-mark, which, with Dr. A. B.'s acquiescence, I made at the time. Now, the wooden foot being also  $1\frac{1}{2}$  inches wide, and resting flat on the table, it is evident that no amount of pressure exerted within this space of  $1\frac{1}{2}$  inches could produce any action on the balance. Again, it is also evident that when the end furthest from Mr. Home sank, the board would turn on the further edge of this foot as on a fulcrum. The arrangement was consequently that of a see-saw, 36 inches in length, the fulcrum being  $1\frac{1}{2}$  inches from one end; were he therefore to have exerted a downward pressure, it would have been in opposition to the force which was causing the other end of the board to move down.

The slight downward pressure shown by the balance when I stood on the board was owing probably to my foot extending beyond this fulcrum.

I have now given a plain unvarnished statement of the facts from copious notes written at the time the occurrences were taking place, and copied out in full immediately after. Indeed, it would be fatal to the object I have in view—that of urging the scientific investigation of these phenomena—were I to exaggerate ever so little; for although to my readers Dr. A. B. is at present represented by incorporated initials, to me the letters represent a power in the scientific world that would certainly convict me if I were to prove an untrustworthy narrator.

I confess I am surprised and pained at the timidity or apathy shown by scientific men in reference to this subject. Some little time ago, when an opportunity was first presented to me of examining into the subject, I invited the co-operation of some scientific friends in a systematic investigation; but I soon found out that to obtain a scientific committee for the investigation of this class of facts was out of the question, and that I must be content to rely on my own endeavours, aided by the co-operation from time to time of the few scientific and learned friends who were willing to join in the inquiry. I still feel that it would be better were such a committee of known men to be formed, who would meet Mr. Home in a fair and unbiassed manner, and I would gladly assist in its formation; but the difficulties in the way are great.

A committee of scientific men met Mr. Home some months ago at St. Petersburg. They had one meeting only, which was attended with negative results; and on the strength of this they published a report highly unfavourable to Mr. Home. The explanation of this failure, *which is all*

they have accused him of, appears to me quite simple. Whatever the nature of Mr. Home's power, it is very variable, and at times entirely absent. It is obvious that the Russian experiment was tried when this force was at a minimum. The same thing has frequently happened within my own experience. A party of scientific men met Mr. Home at my house, and the results were as negative as those at St. Petersburg. Instead, however, of throwing up the inquiry, we patiently repeated the trial a second and a third time, when we met with results which were positive.

These conclusions have not been arrived at hastily or on insufficient evidence. Although space will allow only the publication of the details of one trial, it must be clearly understood that for some time past I have been making similar experiments and with like results. The meeting on the occasion here described was for the purpose of confirming previous observations by the application of crucial tests, with carefully arranged apparatus, and in the presence of irreproachable witnesses.

Respecting the cause of these phenomena, the nature of the force to which, to avoid periphrasis, I have ventured to give the name of *Psychic*, and the correlation existing between that and the other forces of nature, it would be wrong to hazard the most vague hypothesis. Indeed, in enquiries connected so intimately with rare physiological and psychological conditions, it is the duty of the enquirer to abstain altogether from framing theories until he has accumulated a sufficient number of facts to form a substantial basis upon which to reason. In the presence of strange phenomena as yet unexplored and unexplained following each other in such rapid succession, I confess it is difficult to avoid clothing their record in language of a sensational character. But to be successful an enquiry of this kind must be undertaken by the philosopher without prejudice and without sentiment. Romantic and superstitious ideas should be entirely banished, and the steps of his investigation should be guided by intellect as cold and passionless as the instruments he uses. Having once satisfied himself that he is on the track of a new truth, that single object should animate him to pursue it, without regarding whether the facts which occur before his eyes are "naturally possible or impossible."

Since this article was in type, the Author has been favoured with the following letters from Dr. Huggins and Mr. Serjeant Cox--the Dr. A. B. and Serjeant C. D. therein referred to:—

Upper Tulse Hill, S. W.,

June 9, 1871.

DEAR MR. CROOKES,—Your proof appears to me to contain a correct statement of what took place in my presence at your house. My position at the table did not permit me to be a witness to the withdrawal of Mr. Home's hand from the accordion, but such was stated to be the case at the time by yourself and by the person sitting on the other side of Mr. Home.

The experiments appear to me to show the importance of further investigation, but I wish it to be understood that I express no opinion as to the cause of the phenomena which took place.

Yours very truly,

WILLIAM HUGGINS.

WM. CROOKES, Esq., F. R. S.

36, Russell Square,

June 8, 1871.

MY DEAR SIR,—Having been present, for the purpose of scrutiny, at the trial of the experiments reported in this paper, I readily bear my testimony to the perfect accuracy of your description of them, and to the care and caution with which the various crucial tests were applied.

The results appear to me conclusively to establish the important fact, that there is a force proceeding from the nerve-system capable of imparting motion and weight to solid bodies within the sphere of its influence.

I noticed that the force was exhibited in tremulous pulsations, and not in the form of steady continuous pressure, the indicator moving and falling incessantly throughout the experiment. This fact seems to me of great significance as tending to confirm the opinion that assigns its source to the nerve organisation, and it goes far to establish Dr. Richardson's important discovery of a nerve atmosphere of various intensity enveloping the human structure.

Your experiments completely confirm the conclusion at which the Investigation Committee of the Dialectical Society arrived, after more than forty meetings for trial and test.

Allow me to add that I can find no evidence even tending to prove that this force is other than a force proceeding from, or directly dependent upon the human organisation, and therefore, like all other forces of nature, wholly within the province of that strictly scientific investigation to which you have been the first to subject it.

Psychology is a branch of science as yet almost entirely unexplored, and to the neglect of it is probably to be attributed the seemingly strange fact that the existence of this nerve-force should have so long remained untested, unexamined, and almost unrecognised.

Now that it is proved by mechanical tests to be a fact in nature (and if a fact it is impossible to exaggerate its importance to physiology and the light it must throw upon the obscure laws of life, of mind, and the science of medicine) it cannot fail to command the immediate and most earnest examination and discussion by physiologists and by all who take an interest in, that knowledge of "man," which has been truly termed "the noblest study of mankind." To avoid the appearance of any foregone conclusion, I would recommend the adoption of some appropriate name, and I venture to suggest that the force be termed the *Psychic Force*; the persons in whom it is manifested in extraordinary power *Psychics*; and the science relating to it *Psychism*, as being a branch of *Psychology*.

Permit me, also, to propose the early formation of a *Psychological Society*, purposely for the promotion of the study by means of experiment, papers, and discussion, of that hitherto neglected Science.—I am, &c.,

EDWD. WM. COX.

TO W. CROOKES, Esq., F.R.S.

---

# चरकसंहिता ।

सूत्रस्थानम् ।

पञ्चमोऽध्यायः ।

जायते सौकुमार्यञ्च बलं स्थैर्यञ्च पादयोः ।

दृष्टिः प्रसादं लभते मासतश्चोपशम्यति ॥ ८३ ॥

न च स्याद्दृग्ध्रसीवातः पादयोः स्फुटनं न च ।

न शिरा स्नायुसङ्कोचः पादाभ्यङ्गेन पादयोः ॥ ८४ ॥

दौर्गन्ध्यं गौरवं तन्द्रां कण्डूं मलमरोचकम् ।

स्वेदवीभक्षतां हन्ति शरीरपरिमार्जनम् ॥ ८५ ॥

## CHARAKA SANHITA.

### CHAPTER 5.

83. The feet acquire delicacy, strength, steadiness, the vision becomes clear, the disorders that arise from the wind are relieved,

84. Arthritic contractions of the toes, rhagades of the soles, and contractions of the veins and nerves will not take place, if the feet are rubbed with oil.

85. Friction of the body (with powders) takes away bad smell, heaviness and lassitude of the limbs, itching, dirt, anorexia and the evils of sweating.



पवित्रं वृथ्यमायुष्यं अमस्येदमलापहम् ।  
 शरीरबलसन्धानं स्नानमोजस्करं परम् ॥ ८६ ॥  
 काम्यं यशस्यमायुष्यमलक्ष्मीघ्नं प्रहर्षणम् ।  
 ओमत् पारिषदं शस्तं निर्मलाम्बरधारणम् ॥ ८७ ॥  
 वृथ्यं सौगन्धमायुष्यं काम्यं पुष्टिवलप्रदम् ।  
 सौमनस्यमलक्ष्मीघ्नं गन्धमाल्यनिषेवणम् ॥ ८८ ॥  
 धन्यं मङ्गल्यमायुष्यं श्रीमद्यसनसूदनम् ।  
 हर्षणं काम्यमोजस्यं रत्नाभरणधारणम् ॥ ८९ ॥  
 मेध्यं पवित्रमायुष्यमलक्ष्मीकविनाशनम् ।  
 पादयोर्मलमार्गाणां शौचाधानमभीक्ष्णशः ॥ ९० ॥

86. Bathing contributes to purity, virility, longevity, relieves fatigue, takes away the perspiration and dirt (from the surface); gives strength, and increases the vitality.

87. The wearing of clean dress is agreeable, brings on good opinions, prolongs life, drives away misfortune, keeps the mind cheerful, adds to beauty, is social, and auspicious.

88. The use of perfumes and garlands contributes to virility, gives an agreeable odor (to the body), prolongs life, is pleasant, is nourishing and strengthening, soothes the mind, drives away misfortune.

89. The use of jewels and ornaments is lucky, auspicious, prolongs life, adds to beauty, is preventive of evils, keeps the mind cheerful, is agreeable, increases the vital power.

90. The keeping the feet as well as the outlets of the excrements clean contributes to improvement of the memory, to purity, to longevity, and is also preventive of misfortune.

पौष्टिकं धन्यमायुष्यं शुचिरूपविराजनम् ।

केशशस्त्रमुनखादीनां कर्त्तनं सम्यसाधनम् ॥ ६१ ॥

चक्षुष्यं स्पर्शनहितं पादयोर्व्यसनापहम् ।

वलयं पराक्रममुखं वृष्यं पादत्रधारणम् ॥ ६२ ॥

ईतेर्विधमनं वलयं गुप्तावरणशङ्करम् ।

घर्मांनिलरजोऽम्बुघ्नं कृत्रधारणमुच्यते ॥ ६३ ॥

स्वपलतः सम्यतिष्ठानं शत्रूणाञ्च निषूदनम् ।

अवष्टम्भनमायुष्यं भयघ्नं दण्डधारणम् ॥ ६४ ॥

नगरी नगरस्येव रथस्येव रथी सदा ।

स्वशरीरस्य मेधावी कृत्स्नवहितो भवेदिति ॥ ६५ ॥

91. Cutting the nails, and cropping and combing the hairs, the beard and the mustache contribute to nourishment, to good luck, to longevity, to purity, to beauty.

92. The wearing of shoes and the like is good for the eyes, for the sense of touch (in the soles), is preventive of accidents to which the feet are liable, is strengthening, enables one to perform acts requiring the feet with comfort, and improves virility.

93. The use of the umbrella averts danger from serpents, &c., imparts strength, affords protection (from ghosts, &c.), serves as a covering, is auspicious, affords protection from the heat of the sun, from the wind, from dust and from rain.

94. The use of the stick protects from falling, serves to destroy enemies, redoubles energy, prolongs life, and removes fear.

95. The intelligent should always be attentive to whatever tends to protect the body just as the Mayor does to whatever protects his town and the charioteer his chariot.

वृत्तुपावान्निषेवेत ये स्युर्द्वर्णाविरोधिनः ।

शममध्ययनञ्चैव सुखमेवं समश्नुते ॥ ६६ ॥

तत्रश्लोकाः

मात्राद्रव्याणि मात्राश्च संश्रित्य गुरुलाघवम् ।

द्रव्याणां गर्हितोऽभ्यासो येषां येषाश्च यस्यते ॥ ६७ ॥

अञ्जनं धूमवर्त्तिश्च त्रिविधा वर्त्तिकल्पना ।

धूमपानशुणाः कालाः पानेमानश्च यस्ययत् ॥ ६८ ॥

व्यापत्तिचिह्नं भैषज्यं धूमोऽप्येषां विगर्हितः ।

पेयो यथायन्मयश्च नेत्रं यस्य च यद्विषम् ॥ ६९ ॥

96. One should follow those avocations which are not inconsistent with religion ; should practice stoicism and study the vedas. By such doing happiness will be acquired.

*Summary.*

97. Of the due measure of food, of the various articles of food, of heavy and light foods as dependent upon measure, of those foods whose daily use is injurious and those whose daily use is beneficial ;

98. Of collyrium, of the stick to be smoked, of the three different preparations of such sticks, of the effects of inhalation, of its proper time, and the due proportion of each ;

99. Of the symptoms from excessive inhalation and their remedies, of those to whom such inhalation is injurious, of the mode of inhalation, of the compositions of the pipes and their forms according to the smoke to be inhaled ;

नस्यकर्मगुणा नस्तःकार्थं यच्च यथा यदा ।

भक्षयेदन्तपवनं यथावद्यङ्ग णक्षयत् ॥ १०० ॥

यदर्धं यानि चास्येन धार्याणि कबलग्रहे ।

तैलस्य ये गुणादृष्टाः शिरस्रैलगुणाश्च ये ॥ १०१ ॥

कर्णतैले तथाभ्यङ्गे पादाभ्यङ्गे च मार्ज्जने ।

स्नाने वाससि शुद्धे च सौगन्धे रत्नधारणे ॥ १०२ ॥

शौचे संहरणे लोम्नां पादतच्छ्रवधारणे ।

गुणा मात्राश्चितीयेऽस्मिन् यथोक्ता दण्डधारणे ॥ १०३ ॥

100. Of the effects of snuffing (of oil) and of the mode and time of snuffing ; of the tooth-brush-stick, of the mode of using it, and of its effects ;

101. Of the articles which are to be kept in the mouth, and the object for which they are to be so kept ; of the effects of rinsing the mouth with oil ; of the effects of anointing the head with oil ;

102. Of the effects of pouring oil into the ears, of anointing oil over the whole body, and over the feet in particular, and of rubbing the body ; of the effects of bathing, of clean dressing, of the use of perfumes, and of wearing jewels and other ornaments,

103. Of the effects of cleansing the outlets of the body, of cropping the hairs, of wearing shoes, &c., and of using the umbrella and the stick ;—of all these, this the *Matrasitīya* chapter treats.

WE have to tender our best thanks to the Editors of the following Periodicals for regularly exchanging with us :—

*The Indian Medical Gazette.*

*The British Journal of Homœopathy* (H. Turner & Co., London).

*The Monthly Homœopathic Review* (H. Turner & Co., London).

*The United States Medical and Surgical Journal.*

*The American Homœopathic Observer.*

*The Western Homœopathic Observer.*

“*The Homœopathic Sun.*” (We have not received this Journal for a long time past.)

*The American Homœopathist.*

*The American Journal of Homœopathic Materia Medica.*

*The New England Medical Gazette.*

*El Criterio Medico* (Madrid).

*La Reforma Medica* (Madrid).

*La Homeopatia* (Bogota).

*The Indo-European Correspondence.*

*The Hindoo Patriot.*

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*The Bengal Times* (formerly *The Dacca News*).

*The Daily Examiner.*

*Native Opinion* (Bombay).

*The Englishman : Saturday Evening Journal.*

*The Indian Daily News.*

*The Progress* (Tajpore).

*The Indian Post.*

*The Soma Prakasha* (Bengali).

*The Education Gazette* (Bengali).

*The Abala Bandhava* (Bengali).

*The Bamabodhini Patrika* (Bengali).

*Ramayanam : Devanagar Text with Bengali Translation* (publishing in series).

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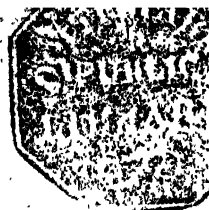
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THE MATERIA MEDICA.

20.—CALCAREA CARBONICA.

*Chem. Comp :* Impure Carbonate of Lime.

What the impurities are have not been ascertained, but ought to be. The pure carbonate ought to be proved in order to determine the difference, if any, that exists between its pathogenesis and that of the Hahnemannian preparation.

*Preparation :* So long as the Pure Carbonate of Lime is not proved Hahnemann's directions in the preparation of this drug should be followed.

For the first three decimal attenuations, trituration should be used ; the subsequent attenuations should be made in the fluid state, using proof or dilute spirit for the 4th and 5th, and strong or rectified spirit for the 6th and upwards.

*Old School Uses :* We may be thought to be hardly justified in speaking of the old school uses of the Calcarea Carbonica of Hahnemann. But as far as massive doses are concerned, there will be scarcely any difference between this drug and the Creta Preparata used by the Old School. The Creta Preparata and its various



preparations are used either as astringents or antacids. This shows the power of developing the physiological and consequently the therapeutic properties of drugs by provings on the healthy system.

### Concordances.

*Moral and intellectual faculties.*—BELL. lyc. n-vom. op. puls. rhus. sep. stram. sulph. veratr.

*Seat of the diseases.*—Acon. amm. anac. ant-crud. arn. ars. aur. bar. BELL. bry. canth. caps. carb-an. carb-veg. caust. cham. chin. cina. clem. cocc. con. creos. croc. euphr. graph. hep. hyosc. ignat. ipec. kali. LYC. magn-mur. merc. mezer. natr. natr-mur. nitr-ac. n-vom. oleand. par. petr. phosph. PULS. rhus. ruta. sabad. sec-corn. SEP. SIL. spig. stann. staph. SULPH. sulph-ac. thuj. verat. zinc.

*Morbid states and sensations.*—Acon. alum. ant-crud. arn. ars. BELL. bry. canth. caps. carb-veg. caust. cham. chin. cina. cocc. con. cupr. ferr. graph. hyosc. ignat. jod. ipec. kali. LYC. merc. mezer. natr. natr-mur. nitr-ac. n-vom. petr. phosph. plat. plumb. PULS. rhodod. rhus. sec-corn. SEP. sil. spig. spong. stann. staph. stram. stront. SULPH. zinc.

*Glands.*—Ang. BELL. bry. clem. con. dulc. kali. lyc. MERC. natr-mur. PHOSPH. puls. rhodod. sil. spong. staph. SULPH.

*Bones.*—Asaf. bell. hep. lyc. MERC. mezer, nitr-ac. phosph. ph-ac. PULS. sep. SIL. staph. SULPH.

*Skin.*—Ant-crud. arn. ars. asaf. bar. bell. bry. carb-veg. caust. chin. clem. con. dulc. graph. hep. lach. led. LYC. MERC. mezer. natr. natr-mur. nitr-ac. petr. phosph. ph-ac. PULS. rhus. SEP. SIL. staph. SULPH. veratr. viol-tr.

*Sleep and dreams.*—Ars. bell. bry. carb-veg. caust. chin. con. graph. ignat. kali. merc. NATR. N-VOM. PHOSPH. ph-ac. PULS. rhus. SEP. sil. staph.

*Pyrosis.*—Acon. anac. ars. bell. bry. cham. chin. ferr. hep. ignat. kali. lyc. MERC. natr-mur. nitr-ac. n-vom. phosph. puls. rhus. selen. SEP. spig. SULPH. veratr.

*Time.*—Ars. aur. carb-veg. croc. ignat. natr-mur. nitr. n-vom. phosph. rhus. seill.

*Exacerbations.*—Amm. anac. ars. bell. bry. caps. carb-veg. caust. cham. chin. con. croc. graph. ignat. jod. kali. lyc. merc. natr. natr-mur. n-mosch. n-vom. phosph. ph-ac. plat. PULS. rhus. sabad. selen. SEP. sil. spig. stann. staph. SULPH.

*Concordances in general.*—Acon. anac. ant-crud. arn. ars. asaf. aur. BELL. bry. caps. carb-veg. caust. chin. clem. cocc. con. croc. dulc. graph. hep. hyosc. ignat. kali. LYC. MERC. mezer. natr. natr-mur. nitr-ac. n-vom. petr. PHOSPH. ph-ac. PULS. rhus. selen. SEP. sil. spig. spong. stann. staph. stram. SULPH. veratr. zinc.

*Antidotes.*—Bry. camph. chin. NITR-AC. n-vom, sulph.—Spir-nitr-dulc.

### Hahnemann's Preface.

TAKE a clean oyster shell, somewhat thick ; of the soft, snow-white calcareous substance which is found between the internal and external hard shell, take one grain, which is then to be triturated and dynamised in the usual manner.

This is one of the most powerful anti-psorics, and may be used with especial benefit in the following affections, if otherwise indicated :—

Depression of spirits ; weeping mood ; want of cheerfulness with heaviness of the legs ; anguish when sweating ; restless anxiety ; anguish, shuddering and horror, when the evening approaches ; anxiety induced by thoughts ; anxiety after listening to the recital of cruel stories ; nervous depression ; frightfulness ; attacks of despondency on account of disordered health ; sensitive peevishness ; obstinacy ; indifference ; dullness of the thinking faculties.

Chronic affection of the head as if a plank were before the head ; dizziness and tremor before breakfast ; vertigo on going up stairs ; vertigo on ascending a height, the roof for instance ; heaviness and pressure in the forehead, which oblige him to close his eyes ; headache on account of reading and writing ; headache from reaching too high ; boring in the forehead as if the head would burst ; beating headache in the occiput ; throbbing in the middle of the brain ; hammering headache after walking in the open air, which forces one to lie down ; headache and buzzing in the head, with heat in the cheeks ; icy coldness in the right side of the head.

Evening, sweat of the head ; falling off of the hair.

Pressure in the eyes ; burning of the eyelids, and soreness, as if they were excoriated ; burning and cutting in the eyes, while reading by candle-light ; cutting in the eyelids ; stitches in the eyes ; itching of the eyes ; agglutination of the eyes ; suppuration of a fistula lachrymalis ; lachrymation, in the open air, or early in the morning, slight twitches in the upper and lower eyelids ; closing of the eyelids every morning ; obscuration of sight when reading ; obscuration of the eyes after eating ; dim-sightedness before the eyes, as if there were feathers before the eyes ; dim-sightedness, as through a gauze ; mist before the eyes when straining the eyes in looking or reading ; long-sightedness, one cannot see without convex glasses ; the eyes are blinded by bright light.

Stitches in the ears ; discharge of pus from the ears ; crackling in the ear when swallowing ; throbbing in the ears ; tingling in the ears ; buzzing before the ears ; whizzing of the ears, with hard hearing ; thundering in the ear ; her hearing is often impeded ; hard hearing ; sore nose ; obstruction of the nose by yellow, stinking pus ; bleeding at the nose ; bad smell and fetor from the nose ; smell of manure before the nose.

Pain of the face ; itching and eruption in the face ; summer freckles upon the cheeks ; itching, and itching pimples, where the whiskers are ; eruptions about the mouth.

Pain of the glands of the lower jaw ; toothache after every cold drink, drawing toothache with stitches, day and night, renewed by cold and by warmth ; toothache like grinding and soreness ; difficult dentition ; painful sensitiveness of the gums ; stitches in the gums ; swelling of the gums ; bleeding of the gums ; dryness of the tongue, at night, or early on waking up ; aphthæ under the tongue ; accumulation of pituita in the mouth ; hawking up phlegm ; constriction of the throat.

Bitter taste in the mouth, early in the morning ; want of appetite ; want [of appetite, with constant thirst ; repugnance to the usual tobacco ; disinclination to warm food ; chronic aversion to meat ; hunger immediately or shortly after a meal ; ravenous hunger, early in the morning ; she cannot eat sufficiently, it will not go down ; heat after eating ; eructations after eating ; bitter eructations ; water-brash ; weakness of digestion of the stomach ; pressure at the stomach before breakfast, and after a meal ; nightly pressure at the pit of the stomach ; stitching pressure at the stomach after a meal ; spasm of the stomach ; pinching and cutting at the pit of the stomach ; simultaneously with pressure at the stomach, pressure from within outwards under the last rib ; one cannot bear tightness of clothing at the pit of the stomach ; swelling at the pit of the stomach, with pressive pain ; the pit of the stomach is painful to touch.

Tension across both hypochondria. Pressive and lancinating colic, without diarrhœa ; pressive and pinching colic, without diarrhœa ; colic in the epigastrium ; in the afternoon cutting and griping in the abdomen, with vomiting of the food taken for dinner ; coldness in the abdomen ; inflation and hardness of the abdomen ; incarcerated flatulence ; flatulence pressing towards the abdominal ring, as if hernia would take place.

Constipation ; contiveness ; stools scanty and hard ; two evacuations a day ; frequent or constant looseness of the bowels ; involuntary discharge of loose stool intermixed with gas ; protrusion of the varices of the rectum, with burning pain, during stool ; physical depression after an evacuation, accompanied by a sensation as of being bruised, through the whole body ; itching of the anus ; ascarides in the rectum.

Burning in the urethra ; too frequent micturition ; hemorrhage from the urethra ; hæmaturia.

Libidinous thoughts ; want of sexual desire ; slight sexual powers ; want of pollutions ; too short erections during an embrace ; stinging and burning in the generative organs of the male, during the emission of semen, in an embrace.

Pressive pain in the vagina ; pressure upon the prolapsed womb ; stitches in the os tincæ ; itching of the pudendum and the anus ; varices of the labia pudendi ; after-pains or milk-fever, after confinement ; hæmorrhage from the uterus ; (suppressed catamenia ; catamenia too early and too copious ; cutting in the abdomen, with griping in the small of the back, during the catamenia ; leucorrhœa, before the catamenia ; leucorrhœa, like milk, flowing at intervals ; burning and itching leucorrhœa ; itching of the pudendum, while leucorrhœa is flowing.

Frequent sneezing ; troublesome dryness of the nose ; constant coryza ; delaying coryza ; dry cold in the head ; dry cold in the head, in the morning ; obstruction of the nose ; ulceration of the larynx ; hoarseness ; excessive accumulation of pus in the chest ; cough in the bed, in the evening ; night cough, during sleep ; cough early in the morning ; dry cough ; yellow, stinking expectoration ; pressure at the stomach during cough ; interception of breath when stooping ; pressure at the chest ; stitches in the side of the chest during motion ; stitches in the left side, when stooping to that side ; burning at the chest ; prickling in the pectoral muscles ; palpitation of the heart, also at night.

Pain in the small of the back ; pain as from a sprain, in the back ; stiffness and rigidity of the nape of the neck ; swellings of the cervical glands ; goitre.

Pressive pain in the right upper arm ; nightly drawing and tearing in the arms ; sudden faintness of the arms, like paralysis ; numbness, (the German expression is extinction, or dying off) of the hand when clutching something ; swelling of the hands ; sweat of the hands ; arthritic nodosities of the carpal joints, and those of the fingers ; prickling of the fingers as if they went to sleep ; numbness of the fingers, and dying off of the same even during warm weather ; want of mobility of the fingers ; the fingers are frequently paralyzed.

Heaviness of the legs ; cramp in the legs ; when sitting, the legs go to sleep ; ulcers of the legs ; stitches in the thigh when setting the foot down ; varices of the thighs ; stitches in the knee, when standing or sitting ; stitches and tearing in the knee ; drawing pain in the knee, when sitting or walking ; swelling of the knee ; red spots on the legs ; burning of the soles ; swelling of the soles ; coldness of the feet, in the evening ; sweaty feet ; dying off of the feet, in the evening ; sensitiveness of the big toes ; corns ; pain in the corns ; the extremities go to sleep ; cramp of the arms and legs ; pain as from bruises, in the upper arms, and in the middle of the thighs when going up stairs ; tearing in the limbs, arms and legs ; by reaching too high the parts are easily strained ; in consequence of this reaching the nape of the

neck becomes enlarged and rigid, with headache; straining easily results from reaching too high, with consequent sore throat.

Great increase of fat in young men; physical depression consequent upon talking; want of strength, faintishness; faintishness early in the morning; great exhaustion after every little walk; attacks of epilepsy in the night, during full moon, with cries. Great fatigue consequent upon moderate walking in the open air; great sweat consequent upon moderate exercise; great sensitiveness towards cold; one easily catches cold; visible gurgling in the skin, succeeded by a sense of dizziness in the skin. Dryness of the skin of the body; rough skin of the body, as if covered with miliary eruptions; bran like covering of the skin. Boils; warts.

Drowsiness by day; drowsiness in the early part of the evening; frequent waking up at night; sleeplessness; tossing about in the bed, at night. Night thirst; pressure at the pit of the stomach at night, and a rising from the pit towards the larynx and the head. Nightly pains in the back and the arms? nightly asthma; nightly palpitation of the heart; heat and anguish at night; horrid images of the fancy before falling asleep, in the evening when in bed; anxious dreams; raving at night; night sweat.

Chilliness early in the morning, and after rising; frequent flushes of heat; flushes of heat, with palpitation and anxiety of the heart; evening-fever for three days, first, heat in the face, then, chilliness.

Calcareæ acts a long while. Calcareæ generally acts well after nitric-acid, when the action of this drug, although apparently homœopathically indicated, had been rather unfavorable; on the other hand, nitric acid relieves the unpleasant symptoms of the homœopathically chosen calcareæ, and imparts to its action a beneficent character. Nausea, consequent upon the use of calcareæ, is specially counteracted by smelling of the spirits of nitre, which act even better in this case than camphor. Other disagreeable symptoms of calcareæ are relieved by smelling of *nux vomica*. Calcareæ is frequently useful after sulphur, especially when the pupils are prone to become dilated.

Calcareæ generally is indispensable and curative when the catamenia appear a few days before the period, especially when the flow of blood is considerable. But if the catamenia appear at the regular period or a little later, calcareæ almost never is useful, even if the catamenia should be rather profuse.

In affections of persons advanced in age, calcareæ, even after other intermediate remedies, can scarcely be repeated with advantage; a dose which is given after another without any previous intermediate

remedy, is almost always prejudicial ; in cases of children, however, several doses may be given in succession, provided the remedy continues to be indicated ; the younger the children, the more frequently may the remedy be repeated.

Those symptoms which are marked (c. a.) belong to *calcareo acetata*.

This drug has been observed by Drs. Hahnemann, Franz, Gross, Hartmann, Langhammer, Rummel, Stapf, Wislicenus, Schreter.

*Pathogenetic Symptoms.*

**Mind:—**

Depressed in spirits, and melancholy to the highest degree, with a sort of anguish.

A feeling about the heart which is not exactly a feeling of sadness ; there is no cause for it, accompanied by a kind of voluptuous tremor in the body.

One is sad almost to tears ; anxiously concerned about the present and the future.

Sad, depressed mood, with irresistible desire to weep.

Weeping mood in the evening.

A good deal of weeping in a baby whose mother had taken *calcareo*.

Weeping consequent upon remonstrance.

Weeping on account of trifles, accompanied by an easily wounded and irritated temper.

Grief and complaints on account of old offences.

Anxiety on account of every trifle, accompanied by a weeping mood.

Anxiety in the afternoon, after previous nausea, and headache in the forenoon.

He is anxious about the present and the future, with deep reflection ; at the same time he is indifferent towards things around him, but he is not disinclined to work.

Anxious mind, as if he had done something evil, or ought to apprehend reproaches, accompanied by a persevering disposition to labor.

Great anguish and palpitation of the heart.

A kind of sweat from anguish, with nausea.

Frequent jerks in the pit of the stomach during the anxiety.

Anxious uneasiness, and appearance of being busily engaged in many kinds of work ; she intends to undertake many things, but accomplishes nothing ; after this stir, her strength is very much depressed.

Uneasiness of mind, with gloom and anxiety.

Orgasm of the blood, and uneasiness.

Extremely uneasy in the evening, owing to nausea in the afternoon, with great thoughtlessness.

He dislikes to be alone ; his face, hands and feet are cold.

Fearful and uneasy, as if some accident were to happen to her.

Apprehension, as if some misfortune were to happen to him, or to some one else ; he cannot succeed in banishing it.

Sadness and apprehension as if she expected some saddening news.

The mind is full of dread and anxiety of the future, with fear of consumption.

She fears to lose her understanding.

She fears lest people should observe her confusion of mind.

Hypochondriasis, she imagines to be deadly sick, and cannot, nevertheless, complain of anything, (the first days.)

Despairing mood, with fears of disease and misery, with foreboding of sad events.

She despairs of her life, and imagines that she is obliged to die ; at the same time, she has a very sad mood, with weeping, and frequent attacks of sudden, general heat, as if she had hot water poured over her.

Frequent attacks of irritability and anguish.

Irritable, faint and depressed, early in the morning, after a little labor.

Noise affects one a good deal.

Every near noise causes him to start, especially early in the morning.

Impatient, desperate.

Unnaturally indifferent, unsociable, taciturn.

Not disposed to speak, without being ill-humored.

Peevishness and unremitted obstinacy, for 3 days.

Very peevish, and disinclined to speak ; these symptoms manifest themselves as soon as he enters the room, coming out of the open air, where he feels well, with increased headache.

As soon as he sits idle and quiet, he becomes peevish and sleepy, and every thing is disagreeable to him.

Vexed, peevish, sullen, and extremely indifferent towards the most important things ; at the same time he did everything with reluctance, and as if by force.

Intolerable sulkiness and peevish mood.

Repulsive disposition.

Repulsive, depressed mood.

Everything is disagreeable to her, with great peevishness.

Sorrowful and peevish, she looked upon everything from the worst side, and imagined everything evil.

Peevish without a cause, two successive evenings.

Peevish, without a cause, especially early in the morning.

Peevish and uneasy.

Frequently peevish, and then she spits.

She is so peevish on account of trifles, that she is giddy the whole evening, and goes to bed early, but is not able to sleep.

Very peevish and irritable, after a cold.

Peevish on account of trifles, and very irritable early in the morning, before stool ; he gets angry at everything.

The recollection of former vexations makes him angry.

Repugnance, aversion, loathing of most men.

Disinclined to every kind of work.

Dread and loathing of work, with great irritability and heaviness of the feet.

Absence of volition, accompanied, however, by a sense of strength.

Peevish and vexed during the day, in the evening cheerful and talkative.

The first part of the day he is anxious, the latter part he is cheerful and satisfied with himself.

He is cheerful, and would like to be amongst men, in order to talk with them.

He loses the train of his ideas ; his memory is short. Very forgetful.

Great weakness of the imaginative faculty ; during a slight effort in talking, he felt as if his brain were paralyzed, mostly in the occiput ; he was not able to think of anything, or to recollect what was the subject of conversation, with obtusion of the head.

She confounds one word with another, and easily chooses a wrong expression.

#### Head :—

Giddiness and loss of senses, as after turning in a circle.

Feeling of stupidity in the head, as after turning a long time in a circle, from 3 o'clock in the morning until 4 in the afternoon. (c. a.)

Loss of consciousness, accompanied by an illusion in regard to the place, as if the room were a bower.

In the evening two attacks of loss of consciousness when walking ; she would have fallen to the floor, if one had not seized her.

Loss of consciousness, with anxious oppression at the stomach ; she is roused from it, as by violent fright.

On stooping, and on moving the head, she felt as if she knew not where she was.



Sense of confusion and tremor in the head.

Sense of dullness and giddiness in the head, every morning when rising.

Great obtusion of the head, after the siesta.

Dull, continual obtusion of the head.

Painful obtusion of the head, so that she cannot understand that which she has read, nor comprehend that which is spoken.

The head feels constantly as if it were too full.

Insensibility and bluntness of the senses, as in a cold.

Dizziness of the head, early after rising, with nausea, and roaring before the ear, and a sensation as if he would fall down senseless.

In the forenoon he felt so dizzy that he looked at everything as if he were half dreaming.

Stupefaction, as if the person were unconscious of the external objects, with an undulating buzzing on the top of the head.

Stupefaction of the head, like vertigo, the whole afternoon.

Vertiginous staggering in the evening, when walking in the open air ; he totters to and fro.

Sense of giddiness, as if he were to be lifted high up and then pushed forward.

Vertigo unto falling, with faintishness.

Vertigo, as if the body did not stand firmly.

Slight vertigo, going off soon. (c. a.)

Attack of stunning vertigo ; the head stooped forward to the left side, both when at rest and in motion. (c. a.)

Vertigo consequent upon vexation.

Vertigo when quickly turning the head, and also when at rest.

Quickly passing vertigo, mostly when sitting, less when standing, and still less when walking.

Violent vertigo when stooping, then nausea and headache.

Vertigo unto falling, after stooping, when walking or standing ; she had to hold herself.

Vertigo after walking, when standing or looking around, as if everything turned with her.

Vertigo when walking in the open air, as if he would reel, especially when turning the head quickly.

Vertigo when walking in the open air. (c. a.)

Vertigo when walking in the open air, as if he would fall to the right side. (c. a.)

Vertigo and painful turning of the head, as in a circle, early in the morning, when rising ; especially giddy when walking or standing, with chilliness and prickings in the left side of the head.

Headache, also with giddiness, every morning on waking up.

Headache in the forehead over the nose.

Headache in the occiput, whenever she ties something firmly around the head.

Frequently semi-lateral headache, always with a quantity of empty risings.

Headache, with nausea.

Headache only on that side upon which he is just lying, (burning ?)

Sensation, on stooping, as if a headache were beginning in the right side. (c. a.)

Dull pain in the forehead, with desolateness and emptiness of the head, early on waking up, with a dry, slimy tongue.

First dull, then pressive headache in the temples, early on waking up, with a quantity of empty eructations.

Violent, dull headache, first in the fore part, then in the back part of the head, for some days.

Stunning pressure on the top of the head, as after quickly turning in a circle.

Stunning pressive pain in the forehead, as in a vertigo, both when at rest and in motion.

Stunning pressive headache in the forehead, with obnubilation of the whole head, and inability to recollect anything when reading ; he had to stop reading, and knew not where he was. (c. a.)

Stunning, pressive headache, early after rising, as if he had not slept enough, or had been revelling during the night. (c. a.)

Stunning, pressive pain in the forehead, which is especially augmented by stooping. (c. a.)

Continual feeling of fulness in the head.

Painful feeling of fulness in the forehead, with beating in the temples.

Heaviness in the forehead, increased by reading and writing.

Heaviness and heat of the head, almost only in the forehead.

Heaviness of the head, early on waking, for several mornings.

Great heaviness of the head, early on waking, with heat in the head ; both symptoms increased by moving or righting the head.

Great heaviness of the head, with violent jerks in both temples, and painfulness of the whole head when stooping, which goes off again when the head is righted. (c. a.)

Heaviness and pressure in the occiput.

Painful heaviness of the head, after stooping for some time while standing, with pressure of the forehead from within outward, especially over the left eye. (c. a.)

Pressure in the head, sometimes on the top, sometimes in the temples.

Pressive, intensely pressive, pain in the whole head, especially in both temples. (c. a.)

Pressure in the temple, every day for 8 days.

Pressure in the left temporal bone, as if it were pressed in, at the same time internally and externally. (c. a.)

Pressure in the right temple, close by the side of the eyes, as if something pressed upon it hard. (c. a.)

He is roused from his sleep at five o'clock, every morning, by a violently pressive pain in the vertex; the pain goes off after an hour.

Pressure in the vertex, which extended as far as the eye. (c. a.)

Pressure in the forehead.

Pressive headache, mostly in the forehead, increased in the open air.

Pressive headache in the forehead, which produces a sensation as if the parts there were unusually large. (c. a.)

Pressive headache in the forehead, especially over the left eyebrow, when walking in the open air.

Pressive headache in the right frontal eminence, which extends as far as the right eye and forces it to close involuntarily. (c. a.)

Pressive pain, shooting quickly through the occiput; the pain only disappears gradually. (c. a.)

Pressure in the fore part of the head.

Pressure in the forehead from within outwards, very considerable and resembling vertigo, relieved by pressing upon the parts with the cold hand, and going off when walking in the open air.

Pain in the left temporal region and the whole left side of the head, pressing from within outward; the pain is also in the right side of the occiput. (c. a.)

Pressing in the left occiput from within outward, in jerks; the pressure extends as far as the nape of the neck. (c. a.)

Sensation in the occiput as if it were pressed asunder. (c. a.)

Violent, almost lancinating pain in the region of the vertex, pressing from within outward; when stooping.

Painful pressing from within outward, in the whole head, with a sensation as if the brain were compressed.

Compressive, pinching headache on the left side.

Tensive sharp pain in the forehead.

Tension across the top of the head.

The head aches, it feels tense.

Tension and pressure in the right side of the head, as from a blunt

instrument, which is pressed through the head from above downwards in jerks.

Cramp-like pain, moving from the forehead to the vertex (after a cold.)

Spasmodic drawing beneath the vertex, with stitches in the temples, and heat in the ears.

Cramp-like pain in the right temple; also in the left temple. (c. a.)

Pinching pain in the forehead.

Pinching and drawing pain in the left temple, towards the parietal bone, with heat of the face.

Drawing pain in the whole of the right side of the head, in the jugum and the jaw.

Drawing pain in the right side of the forehead, over the eye and in the occiput this symptom occurs when he makes a mental effort. (c. a.)

Drawing pain on the top of the head.

Almost constant drawing pain beneath the vertex, and in the temples, which appears to rise from the back.

Headache rising from the nape of the neck.

Drawing pain in the occiput, always towards the side to which he moved his head; going off after sneezing.

Drawing and pressive headache in the region of the left eyebrow, or in the temporal bone. (c. a.)

Drawing pressive headache in the left temporal muscle also in the evening; sometimes with pressure on the upper row of teeth; by pressing upon the temples, the pain is changed to a pressive headache in the forehead. (c. a.)

Drawing, pressive headache in the left occiput, with a sense of stiffness in the nape of the neck. (c. a.)

Drawing, pressive, sometimes also tearing, headache, sometimes in the forehead, sometimes in the occiput, sometimes in the temples; it diminishes when pressing upon the parts, and disappears when exerting the thinking faculty. (c. a.)

Tearing pain, the whole day, in the temples, the bones of the orbit, and the cheek, which swells a good deal.

Grinding and pressing in the head, which spread towards the eyes, the nose, the teeth, and cheeks, with great sensitiveness to noise, accompanied by slight attacks of swooning.

Sensation as of gnawing in the occiput.

Cutting pain in the occiput, and in the forehead, as if a sharp body were pressed in there, made worse by walking and pressing the hand upon the parts.

Stitches in the head.

Shooting stitches in the head, here and there.

Stitches in the head, in the evening, with stitches in the legs.

Stitching pains in the brain, with a sense of emptiness in the head for three days.

Single stitches through the head, with great chilliness.

Lancinating headache out at the eyes, (the first days.)

Lancinating headache on the right side, as far as the eye.

Stitch-like headache in one half of the forehead ; the pain is relieved when lying down.

Stitches in the whole head for half an hour, coming on in consequence of righting herself after she was lying on the back, or after stooping.

Stitching headache on the left side, over the temple.

Frequent stitches in the temples.

Lancinations penetrating at the left temple and coming out at the right.

Stitches on the top of the head, on the right side, extending into the right eye.

Fine stitches in the vertex, externally. (c. a.)

Stitches in the right side of the occiput.

Periodically increasing and decreasing prickings in the left side of the forehead, when at rest or in motion. (c. a.)

Violent jerking stitches through the whole of the right half of the brain ; they are often renewed, and then leave behind them a sensation of tension, and as of pressing asunder. (c. a.)

Dull, stitching ache, when walking ; it especially extends over the left side of the forehead, and disappears again through continual walking. (c. a.)

Grinding stitches in the left temple, close by the eyebrow, when moving the lower jaw. (c. a.)

Boring, painful stitches in the left part of the forehead, when sitting ; they immediately go off when sitting, walking, standing or touching the parts. (c. a.)

Boring stitch in the centre of the forehead, extending into the brain. (c. a.)

Boring lancinations in the left temporal region from within outwards, regularly intermittent ; they go off when sitting, or touching the parts. (c. a.)

Pulsative stitches in the left parietal bone, (immediately.) (c. a.)

Single shootings or thrusts across the brain.

Spasmodically shooting pain in the right temple.

Jerking in the head, for moments.

Throbbing headache in the middle of the brain, every morning, and continuing the whole day. .

Throbbing pain in the forehead.

Stitch-like throbbing in the head, when walking fast.

Considerable throbbing in the top of the head, in the region of the vertex, as of an artery, with cutting thrusts from within outwards. (c. a.)

Rush of blood to the head, with heat of the face, seven hours after the meal.

Heat in the head, and considerable orgasm.

Heat in the left part of the head.

Heat around the head, in the evening.

Icy coldness, in and about the head.

- Snapping, as of sparks from the electric machine, which may be heard for several minutes in the occiput, towards noon ; this is followed by a warmth ascending from the nape of the neck.

Concussion of the brain, especially in the right part of the occiput, occasioned by slight shaking of the head, and at every step.

Concussion of the brain when setting the foot down, like an echo in the head. (c. a.)

Sudden pain in the left parietal bone, as if the bone were cut to pieces, accompanied by a shuddering all over the body.

#### **Scalp:—**

A numb spot externally on the right side of the head.

Several places of the head is intensely painful to the touch.

The whole skin of the head is intensely painful when moving the frontalis muscle to and fro. (c. a.)

Soreness of the occiput, when touching the part, as if there were subcutaneous suppuration. (c. a.)

Pain about the head, as if the skin became detached, about the occiput, as far down as the nape of the neck.

Tearing about the head and in the eyes, with redness of the whole face, every afternoon from three or four o'clock until nine or ten.

Great liability of the head to cold, which causes headache, as if a plank were lying upon the head, with pressive pain in the head, and chilliness of the body.

Itching of the hairy scalp.

Itching of the occiput.

Itching behind the ear, with dizziness in the head after scratching.

Itching of the hairy scalp, when walking in the open air.

Tingling itching of the hairy scalp, which forces one to scratch, with painfulness of the roots of the hairs when touched. (c. a.)

Prickling and itching of the hairy scalp, which cannot be removed by rubbing. (c. a.)

Burning itching of the hairy scalp.

Burning itching, as from nettles, with excessive tingling of the hairy scalp, and the lower part of the face, in the evening before going to bed.

The skin of the head upon the vertex becomes scaly.

Eruption upon the hairy scalp, with glandular swelling at the neck.

Violent eruption on the head.

Pimples on the forehead.

Tumour on the right side of the head, without any pain.

Tumour under the left temple.

Tumour on the right temple, early in the morning, which had gone off again in the evening.

Thin, moist porrigo on the hairy scalp.

A boil on the forehead, where the hairs begin, (the first days.)

The hair of the head comes out when combing it.

#### **Eyes :—**

Pustule over the left eyebrow.

The eyes are so painful that she is obliged to close them with sensation, as if she ought to press them in.

Sensation of pain, as if a foreign little body had got into the eyes.

Pain in the eyes, as if they were pressed in.

Pressure in the eyes, in the evening.

Considerable pressure, day and night, as if a grain of sand were lodged behind the upper eyelid.

Pressure in the eye, in the evening, after going to bed, and at night as if a grain of sand were lodged in the eye.

Pressure and burning in the eyes, with lachrymation.

Tension in the muscles of the eyes, when turning the eyes, or exerting them while reading.

Twitching, and slight pulling in the eye, in jerks.

Stitches in the eye and head, (during the menses.)

Severe stitch in that eye, which is affected with the fistula lachrymalis.

Stitches and biting in the eye.

Stitches in the internal canthus of the eye, then, alternately stitches and throbbing in the eyes; frequent blowing of the nose after the pain has gone.

Stitches in the internal and the external canthus.

Itching stitches in the internal canthi, which pass off by rubbing,

(immediately.)

Violently tearing stitches in the right eye, as if it were inflamed.  
(c. a.)

Boring stitch in the upper border of the orbit. (c. a.)

Itching in the margin of the eyelids.

Itching in the eyes, in the evening, but pressure early in the morning.

Violent itching of the eyes.

Itching in the canthi of the eyes.

Itching in the internal canthus of the right eye.

Itching of the eyes in both corners.

Tinkling itching of the external canthus of the right eye, which forces one to rub.

Pain, as from excoriation, in the lower eyelid.

Biting in the eyes.

Feeling of coldness in the eyes, (immediately.)

Feeling of heat in the eyes, with heaviness in the upper lids.

Burning in the eyes when he closes the lids.

Burning in the left upper eyelid, towards the internal canthus. (c. a.)

Burning of the internal canthi of the eyes, with stitches in the parts.

Burning and itching in the eyes.

Itching burning of the eyes, head and neck.

Redness of the margins of the eyelids.

Redness of the white of the eye.

Reddish appearance of the white of the eye, with pressure in the eyes.

Inflammation and swelling of the canthi of the left eye, and of the lower lid, with shooting and throbbing pains, and itching all around.

Violent inflammation of the eyes, the white of the eyes is quite red ; in the eyes, especially in the external canthi, there is much gum the whole day ; the external canthi look sore, and seem to ulcerate, for fourteen days. (c. a.)

Swelling and redness of the eyelids ; they become agglutinated every night ; in day time the eyes are full of gum, with a feeling of heat and soreness, as from excoriation, and there is lachrymation.

Swelling of the lower eyelids, early in the morning after rising.

Lachrymation, when writing.

Lachrymation, and fatigue and weakness of the eye.

Lachrymation of the eyes early in the morning.

A biting fluid runs out of the left, reddened eye.

Sensation, as of grease being in the eyes.

Gum is constantly in the eyes ; she is often obliged to wipe them.



Dry pus on the margins of the eyelids, and in the canthi of the eyes.

Gum in the canthi of the eyes, for two days. (c. a.)

Agglutination of the eyelids, on moving them, with pressure in the corners, especially the outer corners. (c. a.)

Closing of the eyes by pus.

The eyes look watery and their lids are agglutinated early in the morning; the eyes are, moreover, painful when he looks in to the light.

The eyes are closed by pus, early on waking up. (c. a.)

The white of the eyes is very much reddened; a little blood exsudes out of it, without any pain.

Slight twitching in the upper eyelids, with a sensation as if the eye moved spontaneously.

Stiffness in the left eyeball, early in the morning, after rising, it cannot be moved without experiencing a disagreeable feeling.

She is obliged to wink when reading; the eyes constantly incline to close, (were red from lachrymation.)

Dilatation of the pupils.

The pupils first dilated, then contracted. (c. a.)

A darkness or sense of blackness sometimes shoots across her eyes.

Turbidness of the eyes, after having caught a cold in the head.

Turbidness of sight; at the same time she feels a desire of closing the eyes, without being sleepy.

Sensation as of feathers being before the eyes.

Sensation as of a gauze being before the eyes, in both their inner canthi; this symptom goes off by lachrymation.

Sensation as of a shadow being before the eyes, with dilated pupils, so that, on one side, objects appear to her dark, or are invisible; in man, for instance, she only perceives one eye.

Sudden blindness, immediately after dinner; he was even unable to see the table, at which he was sitting; at the same time sweat from oppressive anxiety, and nausea; also, simultaneously, like a bright appearance before the eyes; the symptom went off after an hour's sleep.

In the dark he imagines to see electric sparks before the eyes.

Far-sightedness; she is obliged to wear convex glasses when reading.

Long-sightedness; whereas she was generally able to distinguish things clearly both near and far, she is now unable to distinguish anything fine in her neighbourhood; she cannot thread a needle, (first days.)

Far-sightedness in a person who is short-sighted; he was able to distinguish clearly objects at a considerable distance, the whole day. (c. a.)

She saw small objects more distinctly than large ones.

When reading, a black point accompanies the letters. Sometimes he sees a black spot before the left eye, which goes off again in a few minutes.

She often sees black spots before the eyes, when she makes a bodily effort.

He sees a halo round the candle-light and the moon.

The letters are dancing before the eyes.

Wavelets of light dancing before the eyes, and dullness of sight.

Dancing wavelets of light, and like fiery sparks before the eyes, early in the morning, on waking up.

Light dazzles her eyes.

Looking at candle-light painfully affects both one's eyes and head.

(*Fistula lachrymalis.*)

(Specks, ulcers and obscuration of the cornea.)

#### Ears:—

Pain in the ears, as if something would penetrate through.

Pressure in the ears.

Cramp-like pain in the ears.

Cramp-like feeling on the posterior surface of the concha. (c. a.)

Twitching in the right ear, accompanied by a whizzing sort of whispering, as of the wind among leaves.

The twitching occurs every minute, and is so violent that the whole body sometimes twitches up.

Twitching in the cartilage of the ear. (c. a.)

Drawing, dull pain in the ears.

Stitches in the left ear, and the temple; the symptom went off when at rest, and when the eyes were closed.

Stitches and pain in the right ear.

Stitches in the ears. (c. a.)

Tearing stitches in the right ear.

Pulsations in the ears, (the first days.)

Prickling in the right ear.

Itching of the concha.

Burning itching in both ears.

Frequently slight chills, externally, on the ears.

Heat in the interior of the ears, like hot blood.

Heat is, so to say, rushing out of the left ear.

Burning pain around the ear.

Swelling in the left ear, with itching.

Extensive swelling of the right ear.

Swelling of the internal ear and right side of the face, with frequent

secretion of wax.

The bone behind the left ear feels swollen and itches ; on touching the place it is painful, as if it were ulcerated.

Eruption behind the right ear ; the eruption becomes moist.

Tumour before the left ear ; it feels like a boil when touched.

Tumour under the lobule ; this causes a tensive pain in the articulation of the jaw, when chewing. (c. a.)

A little water is dropping out of her sound ear, whilst the other ear, which is provided with sound wax, hears with difficulty.

When blowing the nose, there is a shooting into the ear.

When blowing the nose hard, her ear feels obstructed so that she is not able to hear with it ; this symptom goes off again on swallowing.

Sensation in the right ear, as if something had become lodged before the tympanum, without, however diminishing the hearing. (c. a.)

Hard hearing, for a long time.

Sensitiveness in the brain, when hearing a shrill sound. (c. a.)

Sensitive to noise, in the evening, when falling asleep.

Tingling before the ears.

Singing in the ears, and afterwards snapping, as of a spark from the electric machine.

Alternately buzzing, as of mosquitoes, and cracking, as in breaking dry straw, in the left ear.

Buzzing roaring in the ear.

ringing in the left ear and in the head.

Buzzing in the left ear.

Considerable humming in the ears, with hard hearing, early in the morning.

Sense, as of fanning the left ear.

Low humming, as of a top, in both ears, with obtusion of the head. (c. a.)

Quelching (noise as when walking over a bog) in the ears, when swallowing.

Flapping in the ear, as from a loose skin hanging down in it.

A sort of grunting in the ear, when swallowing.

Cracking in the ear when chewing.

(Polypus in the ear.)

(Purulent discharge from the ears.)

**Nose:—**

Twitches of the external muscles of the nose.

Gnawing pain about the root of the nose. (c. a.)

Itching of the nose externally and internally.

Soreness of the margin of the nostrils, and especially the septum.

Stinging pain in the nostril which is almost sore, when touched.

Soreness of the right nostril.

Red spot on the tip of the nose.

Inflammation, redness and swelling of the anterior part of the nose.

Swelling of the nose, especially of the root, frequently going and coming.

Swelling of the right wing of the nose, with painfulness to the touch.

Eruption on the nose.

Painful pimple in the left nostril, with itching, and stinging pain.

Pimple in the right nostril, painful only when the muscles of the face and nose are moved; the wing of the nose is red and itches externally and internally.

Pimples in both nostrils, with scurf. (c. a.)

Sore, ulcerated nostrils; sometimes preceded by frequent sneezing.

The skin of the nose feels as if it were covered with oil.

When blowing the nose, blackish blood comes out.

Considerable bleeding at the nose.

Some bleeding at the nose, at night.

Bleeding at the nose, early in the morning.

Violent bleeding at the nose, as in venesection, almost to fainting.

Smell is dull.

The sense of smell, is easily affected.

Very bad smell in the nose.

Smell before the nose, as of rotten eggs or gunpowder.

#### **Face :—**

The colour of the face is pale, with blue rings around the eyes, (the first days.)

Pale, thin face, with deep dark-bordered eyes.

Yellowness of the face. (c. c. & c. a.)

Frequently considerable redness and heat of the face.

Erysipelas on the (enlarged) cheek.

Pain in the face, succeeded by swelling of the cheeks, which caused the pain to go off.

Dull pain in the muscles of the left cheek. (c. a.)

Pressive pain in the right side of the upper jaw, when chewing.

(c. a.)

Her right cheek is spasmodically drawn sideways, with cramp-like, contractive pain.

**Twitching in the muscles of the face.**

Fine twitchings from the upper border of the orbit down to the nose. (c. a.)

Tearing in the bones of the face and head.

Tearing in the left cheek-bone.

Violent tearing in the right side of the upper jaw. (c. a.)

Violent stitches in the right cheek, the whole day.

Pulsating throbbing on both cheek-bones. (c. a.)

Prickling in the face and neck.

Fine tingling in the face, below the eye, and on the side of the nose. (c. a.)

Violent itching in the whole face : she was constantly obliged to scratch.

Burning in the whole face.

Feeling, as of swelling in the face, especially below the eye and around the nose, without any visible swelling.

Sense of tension in the right cheek, as if it were swollen. (c. a.)

Swelling under the left eye, without pain.

Painless swelling of the cheeks, early, when rising.

Swelling of the face without heat, with prickings here and there.

White spots in the face, with itching.

Eruption of small painless pimples, in the whole face.

Rash-like eruption in the face, near the eyes and the nose.

Many pimples in the whole face, with violent itching.

Itching pimples in the fore-head, with itching in the whole face.

Itching pimples on both cheeks, about the zygoma, for some weeks.

Pimple in the centre of the cheek, which became moist when scratched, and left a greenish crust behind. (c. a.)

Ulcer upon the cheek, with a stinging pain. (c. a.)

The lips and mouth are spasmodically contracted, so that she was not able to open it.

First, slight drawing in the lower lip ; then, the lip seemed to die off, grew white, numb, with a sensation, as if it grew big and would hang down, for five minutes.

Stinging itching around the upper and lower lip.

Itching prickling upon the upper lip ; when the lip is rubbed, the itching appears again at another near place. (c. a.)

Roughness and dryness of the lips, especially the upper lip, as if they would become chapped.

Chapped lips, with fissures in the tongue, and pain, as if excoriated.

Chapped upper lip.

Swelling of the upper lip, early in the morning.

Eruption in the vermilion border of the lower lip.

Pimples on the upper lip.

Eruption of pimples around the mouth, and in the corners of the mouth.

Pimple under the right corner of the mouth.

Scurfy pimple on the margin of the vermilion border of the lower lip.

Large humid scurf under the right angle of the mouth. (c. a.)

Ulcerated angles of the mouth, for a fortnight.

The right angle of the mouth is closed by ulceration, and feels painful like a sore.

**Jaws and Teeth :—**

Itching of the chin.

Tingling itching of the border of the right side of the lower jaw, which invites one to scratch.

Pimple in the middle of the chin.

Fine pimples around the chin and on the neck, with itching.

On the left side of the lower jaw, considerable swelling with drawing pains.

Swelling of a subaxillary gland.

Hard swelling of a submaxillary gland, as big as a hen's egg, with painful tension when chewing, and stinging pain when touching it.

Swelling of the submaxillary gland, with a sense of pressure in it. (c. a.)

Toothache, only when eating.

Toothache, caused by hot or cold things, but mostly by a draught of air, day and night, with flowing of a quantity of saliva, out of the mouth, and stitches coming out at the ears and eyes, which prevent her from sleeping at night.

Toothache in all the teeth, like fine prickings, which is made worse by cold air penetrating into the teeth; the pain wakes him up at night.

The teeth cannot bear any air or cold.

Toothache, only when cold air or beverage enters the mouth.

The tooth is painfully affected, even by being only slightly touched.

The toothache is made worse by external noise.

Drawing in the teeth.

Drawing pain in a fore-tooth, continuing for some minutes, and returning at intervals.

Drawing cutting in all the teeth.

Tearing in the teeth, as if the roots were torn out.

Tearing in the teeth, upwards along the head, as far as the temples, mostly at night.

Single tearings in the hollow teeth, in paroxysms of half an hour each, worst upon taking something warm ; also at night ; tearing through the whole cheek.

Grawing toothache, worst in the evening.

Cnawing toothache in the upper molar teeth of the right side, as if they would become hollow, in any position of the head. (c. a.)

Biting pain in the teeth.

A good deal of tingling pain in a hollow tooth.

Boring toothache, with stitches towards the nasal bone, day and night, and with swelling of the gums and cheek.

Boring and shooting toothache extending into the eye and ear ; immensely increased when driving in a carriage.

First, stitches in the posterior molar tooth, two hours after dinner, then boring, relieved by eating.

Severe stitches in a tooth,—extending into the right eye and temple ; only by day ; inclining to touch the tooth with the tongue ; this touching was always succeeded by a severe stitch-like jerk in the tooth, which caused her to start and which shook her, (the first 5 days.)

Stitches in the teeth. (c. a.)

Jerking toothache, (21 days.)

Twitchings in the left teeth and the left side of the head.

The teeth experience a thrust as from a fist.

Inclination to clatter with the teeth, as in a chill.

Throbbing toothache in one of the incisores, only when eating.

Throbbing toothache, the tooth feeling pain when touched ; there is also swelling of the gums, which is painful to the touch. (c. a.)

Looseness of an old stump under the swollen gums, with pains, when touched, as those of a wound, lancinating.

The teeth are painful when biting upon them.

The teeth feel elongated.

Bad smell from the teeth.

The gums itch.

Fine stitches in the gums of the whole upper jaw. (c. a.)

Boring in the upper gums of the right side ; afterwards swelling of the gums, accompanied by pressive drawing in the right temporal muscle.

Strong pulsations in the gums.

Throbbing in the swollen gums.

Soreness of the gums, with pain of the roots of the teeth.

Swelling of the gums, of a hollow tooth.

Painful swelling of the gums, without toothache, also accompanied by swelling of the cheeks, which is painful to the touch.

Swelling of the gums (and the jaw ;) near a stump a little tubercle is forming, which swells and becomes painful, the pains extending into the ear.

Pustules of the gums, over one of the molar teeth, like a fistula dentalis, (after a cold ?)

Ulcers of the gums.

Bleeding of the gums, also at night.

(Difficult dentition.)

(Toothache of pregnant females, also during and after the menses.)

**Mouth :—**

In the mouth there is a swelling of the right cheek, forming a big tubercle, with drawing and tearing pain in it, every evening.

Blisters in the mouth, which open and form ulcers (after vexation ?)

Blisters in the mouth, which form ulcers upon the inner cheek, (after a cold ?)

Small blisters on the inner cheek, where the teeth touch the cheek.

White-yellowish little ulcer on the right tonsil.

The tongue is painful on the border and upon its lower surface, especially when chewing, swallowing and spitting.

(Ranula.)

Pain under the tongue, when swallowing, on the left side, behind the os hyoides.

Burning pain in the tip of the tongue, as from soreness ; she was not able to take any thing warm into her mouth, it pained her too much.

Violent burning upon the tongue and in the whole mouth.

Sense of rawness and soreness of the tongue, which is coated white.

(c. a.)

Thick tongue, entirely white, with a sensation as if it were without any skin, and sore.

Swelling of one side of the tongue, which makes deglutition difficult.

Blisters upon the tongue, which prevent him from eating. (c. a.)

Little blisters upon the tongue, with burning pain and heat in the mouth.

Tongue coated white, (the first days.)

Difficulty of moving the tongue.

Difficulty of speech. She finds it difficult to talk.

● He moved his mouth as if he would talk or scream ; but he was unable to utter a word.

**Throat ; Oesophagus :—**

Stinging in the palate.

Roughness and rawness of the back part of the palate ; these symptoms excite coughing, but are not relieved by it. (c. a.)

Sore throat, with swelling of the submaxillary gland.

Pain in the throat, as if the uvula prevented deglutition, even when nothing was swallowed ; but there was less pain when talking, and none whatsoever when lying in the bed.

Sore throat, like an internal swelling, extending as far as into the ears.

Sore throat as from a plug in the throat, when swallowing.



Sense as if a foreign body were lodged in the pharynx, which constantly obliges one to swallow.

Sense in the throat, as if a pressing body prevented deglutition.

Spasmodic constriction of the œsophagus.

Sense in the œsophagus, in the afternoon, as if the food had remained lodged there, and had not come into the stomach, with a sort of nausea.

Pressure in the œsophagus, after deglutition.

Stitches and pressure in the throat, during deglutition.

Violent stitches in the throat extending into the ear, during deglutition, and still more during talking.

Stitches in the throat during deglutition, she cannot get any bread down.

Violent stitch on the right side of the top of the œsophagus, when not swallowing, (after three quarters of an hour.) (c. a.)

Roughness and burning in the throat, with sensation, as if the whole œsophagus, as far as the orifice of the stomach, were raw and sore.

Sensation as if the throat and the mouth were sore, and deprived of the skin.

Rawness and soreness of the whole œsophagus; he can scarcely swallow any thing.

Swelling of the tonsils, with elongation of the uvula and sense of tightness of the œsophagus when swallowing, also a feeling of soreness with stitches.

Swelling and inflammation of the palate; the uvula is dark red and full of little blisters.

Swelling and dark redness of the uvula.

Great dryness of the mouth and the tongue, with a sense of roughness and stinging.

Dryness in the mouth, as of lime. (c. a.)

Dryness of the tongue, early on waking up.

Sense of dryness upon the tongue.

Dryness and bitterness in the throat, the whole day, mostly early in the morning.

Feeling of dryness of the palate, which obliges him to hawk up phlegm.

A quantity of saliva collects in the mouth, but cannot be spit up.

In the forenoon the saliva collects frequently in his mouth, with nausea.

An abundance of saliva collects in the mouth, more than he could swallow.

Quantity of phlegm in the mouth, with a sense of dryness.

Sensation as if there were much phlegm in the throat, during deglutition, with dryness in the mouth, (after  $1\frac{1}{2}$  h.) (c. a.)

Slime in the mouth, early in the morning; rinsing the mouth does not relieve it.

Phlegm in the throat, with taste of iron.

Expectoration of mucus, at night, with rawness of the throat.

Hawking up phlegm, early in the morning.

**Taste and Appetite:—**

Taste has become blunt. Every thing tastes as if it were not salted.

His food, especially meat, does not taste sufficiently. (c. a.)

Flat, watery taste in the mouth, the taste of the food being morbidly keen.

Bad taste in the mouth, early in the morning, as from a deranged stomach.

Taste of manure in the mouth and throat.

Impure, bitter taste in the mouth.

Bitter taste in the mouth, early two hours after rising.

Bitter sort of a taste in the back part of the throat.

Sweet taste in the mouth, as of sugar, day and night.

Metallic taste, taste of lead early in the morning.

Taste of iron in the mouth.

Taste of ink in the mouth, early on waking up.

Sour taste in the mouth, with much viscid phlegm.

Sour taste of the saliva ; she spits it out continually.

Sour taste of all food, without any sour taste in the mouth (after a cold ?)

Saltish taste of the mouth, and much thirst, (after some hours.)

Great thirst in the afternoon.

Great thirst and brown urine. Great thirst for beer.

Thirst, early in the morning. (c. a.)

Unusual thirst and dryness in the throat. (c. a.)

Violent thirst, with desire for cold drinks, especially water ; he was obliged to drink a good deal, for eight hours. (c. a.)

The appetite is less ; she feels an acidity in the stomach.

Total want of appetite.

Constant fulness.

She will not eat anything boiled.

Vehement appetite, with great weariness, in the evening.

Ravenous appetite, early in the morning ; also with a weak stomach.

Great inclination for saltish food.

She had much desire for wine, which she never liked before.

Desire to nibble.

The usual tobacco does not taste well ; when smoking, he has headache and nausea.

Milk does not agree with him, gives him nausea and inclination to vomit.

Milk tastes sour to him, and is disagreeable to him. (c. a.)

He relishes milk.

The milk which he had taken early in the morning, regurgitates and tastes sour.

**Gastric Symptoms:—**

Water-brash, consequent upon taking milk.

Early in the morning, after taking milk, a sensation of nausea ascends from the stomach, as if the stomach were spoiled. (c. a.)

Every time she eats something, she is affected with a burning

sensation ascending along the throat, which she can scarcely endure ; with or without any rising.

At dinner, after he has eaten scarcely half enough, he feels sick ; the ingesta gulp up as far as the mouth, with nauseous taste ; there are then constant eructations for 3 hours.

Gulping up of food.

After he had scarcely eaten enough, he felt nauseous ; but nausea ceased as soon as he stoped eating entirely.

Every kind of food causes eructations tasting of the ingesta.

Frequent eructations after eating.

Shortly after dinner bloated, hard abdomen.

Distention of the stomach and abdomen, after little eating or drinking.

After taking liquid food in the evening, he feels as if he were stuffed, with much spasmodic pressing.

Colic after supper.

At dinner, pinching in the belly, extending from the navel.

Loud rumbling at dinner, close over the navel.

Spasmodic pressure in the stomach after supper ; when the pressure abates, there is a sensation in the intestines as if diarrhœa would come on, which, however, is not the case.

Stitches in the præcordial region after dinner.

After dinner, pressure in the vertex and forehead.

After dinner the drawing and pressive headache around the temples is constantly increased ; the headache often commences already during the dinner, with great sensitiveness of the teeth during mastication, as if they were loose and were being bent over.

Rush of blood to the head two hours after dinner, with heat of the face.

Violent beating of the heart after dinner.

After dinner he feels the beats of the heart, without laying the hand upon the chest.

After dinner, faintishness and feeling of weakness.

Sleepiness after dinner ; he fell asleep in nodding.

Unconquerable sleep after dinner ; afterwards chills and cough, induced by tickling in the throat.

After supper violent inclination to sleep.

Cold feet after dinner.

During supper, sweat in the whole face.

Frequent eructations, even early in the morning, on waking up, and before breakfast.

Frequent empty eructations. (c. a.)

Frequent empty eructations tasting of the ingesta.

Even 6 hours after dinner, he has eructations tasting of the ingesta.

Gulping up of the ingesta.

Bitter eructations. Eructations tasting of bile, in the afternoon.

Sour eructations early in the morning.

Constant, sourish eructations. Sourish, offensive eructations. (c. a.)

Sourness of the stomach rises up to the throat ; a kind of heart-burn the whole day.

Gulping up of a brownish, sour liquid, with burning, arising from the pit of the stomach, (heart-burn.)

Rancid eructations, heart-burn, with a sense as of scratching, (rawness.)

Heart-burn.

Burning rising up in the throat, after every kind of food, especially after eating hard, dry substances.

Eructations, with hiccough.

Frequent hiccough. Hiccough the whole day, until evening. (c. a.)

Considerable hiccough, a quarter of an hour.

Qualmishness with collection of saliva in the mouth.

Nausea every morning, with diminished appetite.

Nausea early in the morning, before breakfast, with loathing and horripilation.

Nausea in the pit of the stomach, early in the morning, before breakfast; at the same time, the eyes see black, so that he is obliged to sit down.

Feeling of nausea in the forenoon.

Considerable nausea in the pit of the stomach, in the afternoon, as from great emptiness in the stomach.

Nausea in the evening, and heat, with uneasy sleep. (c. a.)

Nausea, with cough and a kind of heart-burn wake him up about midnight. (c. a.)

Nausea, with anguish.

A faint sort of nausea frequently.

Nausea even unto vomiting, with sourish water running out at the mouth.

At 11 o'clock in the forenoon, nausea, and inclination to vomit.

Inclination to choking, in the œsophagus, without nausea, with collection of water in the mouth, resembling water-brash.

Water-brash with colic.

Inclination to vomit, with eructation and collection of water in the mouth, and accompanied by a sort of vertigo in the head, (immediately.)

Nausea, with vomiting of the ingesta, accompanied by faintishness, swoons and loss of consciousness.

Vomiting early in the morning, succeeded by nausea the whole day, with grinding pain in the abdomen.

Vomiting of sour water at night. (Sour vomiting of children.)

Vomiting of black substances.

Vomiting of blood, of bitter mucus, with griping and cutting in the abdomen.

#### **Stomach :—**

The region of the stomach is painful to the touch.

Sudden pain in the stomach, as if it should be distended.

Fulness of the stomach in the afternoon.

Inflation of the region of the stomach, towards the left side.

Pressure at the stomach the whole day, even before breakfast.

Pressure transversely across the stomach.

Pressure at the stomach; sense as of a weight being firmly lodged in it.

Pressure at the stomach, as if a lump were in it, after a moderate supper, for an hour.

Pressure at the stomach with collection of saliva in the mouth.

Pressure at the stomach in the evening, before lying down, resembling a choking.

Painful pressure at the stomach, like a spasm, for two hours ; this made it impossible for her to remain in the bed ; she had to rise.

Spasm of the stomach, with nausea, eructations and yawning, (after eating, with vomiting of food and oppression.)

Violent spasms of the stomach, in the afternoon, until sweat broke out all over the body.

Spasm in the stomach and abdomen, of a cutting and compressive kind.

Contractive pain in the stomach, for several days, sometimes with pressure after the meal.

Gripping in the pit of the stomach.

Gnawing, and sense as of jerking, at the stomach.

Stitch-like pain in the pit of the stomach, when pressing upon it, especially severe after stool.

Stitches transversely across the region of the stomach.

Soreness at the stomach.

Burning at the stomach.

Anguish in the pit of the stomach. (c. a.)

Anguish apparently coming from the stomach, when sitting, with burning in the abdomen, soon going off again when walking or standing. (c. a.)

#### **Abdomen :—**

Tension in the hypochondria.

Sense as of constriction below the hypochondria, with trembling and throbbing in the region of the stomach.

Tensive and clawing pain in the whole region of the hypochondria, and in the pit of the stomach. (c. a.)

Dull, pinching choking close under the pit of the stomach, (immediately.)

Sense as of pinching and nipping in the whole region of the hypochondria, which extends as far as below the sternum ; here it becomes lancinating and excites eructations. (c. a.)

Violent pinching in the hypochondriac region and chest, which terminates here and there in a little stitch. (c. a.)

Gripping in the hypochondriac region, below the pit of the stomach, accompanied by chilliness over the whole body. (c. a.)

She cannot bear tight clothes around the hypochondria.

Tensive pains in the region of the liver.

Tension and pressure in the region of the liver, as if the parts were very much enlarged there, even unto bursting.

Enlargement and elevation of the right side of the belly, (in the region of the liver ?) ; she there constantly feels a pressure, especially when sitting, and a heaviness ; she dares not rest upon this side ; this is accompanied by interception of breath.

Pressive pain in the liver, especially at night; at this time the hardness is more easily felt.

Pressure in the region of the liver, at every step, when walking.

Drawing pain in the posterior part of the region of the liver, towards the back, like tearings.

Drawing pain extending from the right hypochondrium to the symphysis pubis.

Twitching pain in the region of the liver.

Stitches in the region of the liver, during or after stooping.

Shootings in the right hypochondriac region, in the forenoon, for an hour.

Stitches in the right hypochondriac region, which extended thence into the back, in the evening.

Long stitches in the right side below the ribs.

Shaking stitch from the region of the liver into the chest.

Stitching pain, as from excoriation, in the region of the liver, near the last false rib.

Pain as of rawness in the liver.

Frequently during the day, attacks of pressive throbbing in the left hypochondrium, lasting a quarter of an hour, both when at rest and in motion.

Sharp pinching, compressing the parts in the left hypochondriac region.

In the middle of the belly excessive feeling of soreness from nausea, without inclination to vomit, a quarter of an hour.

Pain in the belly, over the hips, when walking and breathing.

Soreness in the hypogastrium, already, after having walked a few steps, with a sense of heat through the whole body.

Pressure in the abdomen, from the pit of the stomach downwards.

Pressive pain in the belly below the navel, early after rising, as if a pressure were made upon the abdomen, with constipation.

Violent pressure in the hypogastrium, and hard stool, (the first days.)

Pressure in the hypogastrium, during strong bodily exercise.

Pressive pain in the hypogastrium, with nausea.

Pressure in the abdomen with stitches in the pit of the stomach downwards.

Pressure in the hypogastrium, which causes obtusion of the head. (c. a.)

Fulness in the abdomen, especially after a meal. (c. a.)

Inflation of the belly only after dinner, not after supper, when, however, she eats a good deal.

Considerable distention of the abdomen, with colic, frequently during the day.

Fulness in the belly, in the evening, so that he was scarcely able to move, with violent colic.

Distended, hard abdomen.

Tense, full abdomen, with contraction of the rectum, which prevents the emission of the flatulence.

Tension and inflation of the abdomen, the whole afternoon, without any feeling of flatulence; the symptom went off after emission of flatulence.

Tension of the abdomen, when sitting down after violent exercise. (c. a.)

Tension and a cutting in the hypogastrium.

Squeezing and pressing close below the navel, after supper, increased by walking, and afterwards changed to distention of the abdomen.

Contractive pains in the abdomen, towards the small of the back.

Contractive pain in the epigastrium, so that she was obliged to walk crooked, especially excited by deep breathing.

Sense as of contraction in the abdomen and the pit of the stomach, the appetite being sometimes too great, sometimes too little.

Contraction of the abdomen, upwards towards the chest, early in the morning, for an hour.

Gnawing, griping in the abdomen, and at the stomach, coming from the chest, (also with cutting and vomiting of food.)

Frequent severe spasms in the intestinal canal, especially, however, in the evening and at night, with coldness of the thighs.

Spasmodic turning and twisting around the navel.

Sense as of suddenly snatching the parts in the hypogastrium, in the direction of the uterus, for several days, with discharge of bloody mucus, with the stool.

Twisting in the bowels.

Writhing, cutting pain in the abdomen.

Colic frequently during the day, for some minutes, like pinching, afterwards nausea.

Pinching deep in the hypogastrium, in the region of the bladder, with pain at every step, as if the internal parts were drawn down by a weight.

Pinching in a small spot below the navel, which is changed to a sense, as of gurgling, by rubbing the parts with a finger. (c. a.)

Pinching deep in the hypogastrium, apparently in the region of the bladder, frequently repeated, and constantly accompanied by the emission of some flatulence. (c. a.)

Cutting in the left side of the belly, which went off by the passage of soft stools.

Violent cutting in the abdomen, early in the morning, on waking up.

Frequent attacks of colic, succeeding a bad cold which had lasted two days; the colic was accompanied by great faintishness and a wretched complexion for many days; afterwards it was suddenly completely relieved by diving into cold water.

Cutting in the abdomen every morning, also in the evening, and at night; directly after a meal the pain ceases; but afterwards there is a grunting in the belly. (c. a.)

Cutting pain in the right lumbar region pressing from within outwards; upon touching the parts, the pain ceases only for a short time.

Transverse stitches across the abdomen, when breathing, below the navel.

Stitches in the abdomen.

Stitches in the belly, extending as far as the back, with arrest of breathing.

Shooting stitches in the abdomen, especially when breathing.

Stitches in the hypogastrium.

Stitches in the left side of the abdomen, towards the small of the back, more frequently in the evening, and after turning the body, or when stooping,

Drawing in the abdomen, with uneasiness in it early on waking up.

Tearing, downwards, along the side of the abdomen, in jerks.

Soreness in the hypogastrium, with painful tension when keeping the body straight, or when bending it backwards.

Burning in the abdomen, frequently.

Burning pain below the navel, for some hours, in the afternoon.

Pain below the navel, sometimes burning, sometimes lancinating ; the pain extends as far as the groin, which is distended more towards the left side.

(Feeling of coldness in the abdomen.)

(Enlargement and hardness of the abdomen, particularly in children, with swelling of the mesenteric glands.)

Pain in the groin as from concussion.

Pressure and tension in the left iliac region. (c. a.)

Heaviness and drawing pain in the groin.

Cutting pain in the groin around the os pubis.

Pressure in the groin, in the hernia, in the rectum, and the back, with stitches in the chest.

Stitches in the region of the groin, as if inguinal hernia would protrude.

Pain, as from excoriation, in the right iliac groin.

Soreness in both groins, as if a swelling of the glands would take place ; it is especially felt when walking ; when touching the part, an elevation of the gland might be felt. (c. a.)

Straining (rigidity) in the glands of the groin, also when sitting.

Tearing in the inguinal glands, when sitting and walking. (c. a.)

Sense as of swelling in the inguinal glands.

Small glandular swelling in both groins.

Painful glandular swelling in the groin, of the size of a large bean.

Swelling of the glands in the left groin. (c. a.)

Twitches in the muscles of the abdomen, during stool.

Tearing in the abdominal muscles, increased by breathing. (c. a.)

Pinching, almost spasmodic pain in the integuments of the right groin, in a small spot, only when speaking ; also painful when touching the parts with the finger. (c. a.)



Tension in the muscles of the epigastrium, when bending the body backwards, with pain, when moving the hand along the epigastrium, as if the skin were sore.

Prickings in the abdominal muscles below the ribs, from within outward, especially during an inspiration.

A good deal of rumbling in the abdomen.

Loud rumbling and grunting in the abdomen, as from emptiness. (c. a.)

Grunting and grumbling in the abdomen, when inspiring and expiring.

Continual grunting in the left part of the epigastrium.

Grunting in the abdomen, and then eructations.

Constant gurgling in the abdomen.

Gurgling in the left side of the abdomen, with uneasiness in the abdomen, without any pain.

Audible gurgling in the right side of the abdomen, as if diarrhoea would take place. (c. a.)

Frequent audible rumbling, and a tingling sort of straining (rigidity), from below upwards, in the right side of the abdomen, as if caused by flatulence, which was indeed emitted. (c. a.)

Much fermentation in the abdomen.

Frequent incarceration of flatulence, with rumbling in the abdomen.

Incarceration of flatulence, with pain in the small of the back.

Incarceration of flatulence, with great vertigo.

*(To be Continued.)*

## EDITOR'S NOTES.

## WHAT BECOMES OF ALL THE CHLORAL MANUFACTURED?

WE learn from the *Lancet* (Oct. 21) that Chloral Hydrate is now being manufactured and *consumed* in tons weekly in England Germany! Baron Liebig writes to Dr. George Harley of London :—"I spoke yesterday to a chemical manufacturer, who told me that he makes weekly half a ton of the hydrate of chloral; and that it is used in such enormous quantities in Germany and England that it is impossible to believe that its employment is limited to the sphere of medicine alone. It must be used for other purposes. Some affirm that it finds its way into our beer!" This is really serious, and the Governments of the countries in which chloral is manufactured ought to direct their attention to it.

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## EUCALYPTUS GLOBULUS.

DR. MACLEAN reports in the November number of the *Practitioner* that he has found benefit from the leaves of the *Eucalyptus globulus* (smoked as cigar) in the dyspnoea and other sufferings of a case of aneurism of the aorta and in a case of cardiac asthma. When the patient was incapable of smoking the leaf as a cigar or in a pipe, portions of the leaf were burnt in a plate near him, in the way nitre-paper is used. The *Eucalyptus globulus* has been introduced from Australia into the south of France where it is said to flourish as vigorously as it does in its native place. Dr. Maclean is told that in the south of France where its properties are known, asthmatics mix the broken leaves with their tobacco. In India the leaves or the seeds of *datura stramonium* are similarly used for the same purpose, and with the most marked benefit. The action of the *E. globulus* is, as Dr. Maclean believes, undoubtedly on the nervous system, and probably chiefly on the vagus. It deserves a proving.

## FAILURE OF CONDURANGO-ROOT IN CANCER.

WE learn from the *Medical Times and Gazette* (Nov. 4) that a quantity of this root, vernacularly called the "vulture-plant," was sent to Her Majesty our Queen by the President of the Ecuador Republic with the statement that it had been found by the doctors of the Republic to be very successful in cancer,

syphilis, and phthisis. At the expressed wish of Her Majesty a packet of the root was placed by Lord Granville at the disposal of the College of Physicians, who, dividing it into three equal parts, sent one to the Radcliffe Infirmary, Oxford, one to St. Bartholomew's Hospital, and one to Middlesex Hospital. The result of the trial in the latter institution for cancer under Mr. Hulke has been a failure. The condurango was given in the form of decoction, each pint containing an ounce of the plant. Of this decoction, five ounces were taken night and morning. The only effect observed was flatulence in all the patients, in consequence of which tincture of ginger had to be added to each dose. In none of these did the reputed remedy exert the slightest influence in modifying or retarding the course of the cancer, or in improving the general condition. Hence Mr. Hulke has pronounced it to be absolutely inert and useless in this disease. This fact cannot be too widely known, as condurugo has begun to be sold at the fabulous price of 100 dollars the pound.

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#### ACTION OF LEAD UPON THE UTERUS.

Dr. Dyce Brown has contributed a paper on the above subject in the Oct. No. of the *British Journal of Homæopathy* in which he gives extracts from an article by Mr. Benson Baker "on the influence of Lead-poisoning in producing Abortion and Menorrhagia" published in the 8th Vol. of the "Transactions of the Obstetrical Society of London." Mr. Baker, while he gives his own cases to the point also quotes in confirmation from M. Paul's paper on the same subject in the *Archives Général de Médecine*. From these it appears that the effects of lead are not only manifested by the symptoms generally recognized but also (1) by the occurrence of severe hemorrhage, which in some cases are abortions, but in others true simple hæmorrhage; (2) by actual abortions between the 3rd and 6th months of pregnancy; (3) by premature delivery; and (4) by the death of the children within the first three years of their life. That the uterine hæmorrhage is not always due to unrecognized abortions is borne out by the fact that it occurs in single as well as in married women, and that the hæmorrhage continues long and is profuse after delivery.

"We must then admit," says Dr. Dyce Brown, "that lead has a specific action on the uterus, independently of the poisoning of

the fetus. This being the case, though hardly ever, as far as I am aware, prescribed by homœopaths in such cases, it ought to be of value as a medicine. It ought to be useful in menorrhagia, in profuse lochia, and in threatened abortion with or without hæmorrhage, and still more in recurrent abortion. In bearing down and contractive pains in non-pregnant women it would perhaps also prove useful. This view of the subject also brings out an interesting point, namely, that allopaths, in prescribing *Acetate of Lead* in menorrhagia, and in threatened abortions with hæmorrhage, are really, without being aware of it, practising homœopathically. *Lead* is a very frequent prescription of theirs in such cases, generally combined with *Opium*: Although we have several most reliable medicines for these states, yet we are all the better of this addition to our *armamentarium*."

#### WHY FRESH-WATER ANIMALS CANNOT LIVE IN SALT-WATER AND

##### *Vice Versa ?*

THE *Edinburgh Medical Journal* for Nov. gives the results of investigations on the above subject by M. Bert and M. Felix Plateau. From these it appears that the duration of survival varies in different species, generally those fresh water animals which have an aerial respiratory apparatus could bear the change much longer, while those whose respiration was branchial and cutaneous died with a rapidity proportional to the activity of their respiration. The difference of densities of fresh and sea-water could not be the cause of death, inasmuch as the fresh water animals were scarcely affected if placed in fresh water sugared to the extent of giving it the density of sea-water; and sea-water animals did not survive much longer their immersion in such water. M. Bert has given the following account of the phenomena preceding and accompanying death in a carp and in a frog. The *carp* on being plunged in sea-water was violently agitated for some 5—10 minutes, and then becoming motionless, rose to the surface. The respiration was at first accelerated and then became slow. The branchiæ were first deep brick-red but soon became blackish. The anterior layer of the crystalline lens became opaque. The surface of the whole body was covered with thick mucus. Sensibility disappeared and all movement ceased. Plunged

into fresh-water it did not exhibit any sign of revival, though the muscular contractility was intact, the muscles and the heart responding to stimuli applied to the spinal cord. The branchiæ were found to be highly congested, and the blood-cells were dentated and broken and heaped up in entangled masses. The *frog* was also much agitated, exhibiting signs of pain, unless he could keep his muzzle above the surface. After all signs of sensibility had disappeared, the muscles retained their irritability, and the heart filled with dark blood was found to be beating spontaneously. The blood-globules even in the superficial veins were unaffected. *The crystalline lens and the cornea became opaque.* The loss of weight of the animal was about one-fifth. In order to ascertain what was the noxious ingredient in sea-water which cause such rapid death of the fresh-water aquatics, M. Plateau prepared solutions of the density of sea-water of the chief salts found in sea-water, viz. of *chlorides* of sodium, of potassium, and magnesium, and the *sulphates* of magnesia and lime; and plunged fresh-water animals in them. The experiments show that the chlorides of sodium and magnesium were as poisonous as sea-water, while the sulphates had little effect.

#### HOMŒOPATHY AT SOUTHAMPTON AND THE LONDON ORTHODOX WEEKLIES.

HOMŒOPATHY has recently had a signal triumph at Southampton. The post of medical officer of District No. 2 became vacant, and out of two candidates that presented themselves, one Mr. James Oliver, an old resident of the borough, and one Dr. Archer, a graduate of Trinity College, Dublin, who has been practising in Southampton only for about a year, the latter was elected by 13 votes out of 16, mainly on the ground that he was a homœopathist. The election was by the Board of Guardians, and it was subject to the approval or otherwise of the Local Government Board. No small hubbub was made by the allopathic fraternity to influence this body to rescind the appointment. Letters and memorials were addressed by the medical officers of the Board of Guardians and by the members of the Southampton Medical Society; and the orthodox medical Press issued threats and exhortations. The *Lancet* (Sept. 16) hoped that "the Local Government Board would refuse its sanction to a scheme which with-

holds what is generally regarded as medical help from the poor." The *Medical Times and Gazette* (Oct. 28) had no hesitation in expressing its opinion "that the Board will not do their duty if they sanction the treatment of the sick poor by homœopathy." In spite of all this insane grumbling, the Board did confirm the appointment, and in reply to the letter addressed to them by the medical officers regretted that they "should have so far forgotten themselves as to have written to the Local Government Board upon the subject."

It is curious to note the changed opinion of the *Lancet* after the appointment of Dr. Archer was confirmed by the Local Government Board:—"We cannot but *approve* (!) of the Board's view of the case," says the Editor (Oct. 28). "To have called upon Mr. Archer to resign on the ground of a certain abstract theory of the action of remedies would have been to make Mr. Archer a martyr, and even homœopathy can be made important by this course." Indeed! But what has been the reason of excluding homœopathic physicians from official positions and expelling from societies and associations members for acknowledging truth in homœopathy? Who does not see that orthodoxy exists simply because it has the advantage of "occupying official positions, from which it defends itself with an intolerance equalled only by the absurdity of its doctrines?"

#### A PROVING OF CANNABIS INDICA.

FROM a proving of *Cannabis Indica* published by Dr. Pierce in the Sept. & Oct. Nos. of the *American Journal of Homœopathic Materia Medica*, we gather the following as some of the genuine pathogenetic effects of the drug:—

Music seemed sweeter than it had before. The prover was absorbed in music, while a deep subdued happiness, such as he had never felt before pervaded his whole being. Entranced with the melody and harmony, he forgot all else besides, heard no words. Felt disgusted with his friends at their want of taste, because they did not appreciate the music as he did, and because they requested him to cease his miserable thrumming.

Slowly and fitfully a crawl commenced to flutter upon his finger's ends, then tingling and leaping it swiftly flew like a thrill of electric power up his arms, through his limbs and around his brain as though it would blot his very senses out. Another thrill and the word Hashish came in his mind. He would have given worlds to have been able to remove the drug from his system.

"Alarm, surprise and confusion enthral the reason, while fancy reigns. Such was my state."

Turned to his notes, but a haziness prevented him from making them out distinctly enough to play. Tried to play from memory ; but his mind was too much confused to recall anything to play. His nerves seemed totally unstrung. He could do nothing.

His reason suggesting the propriety of leaving the room for fear lest he should alarm the family he rose, guitar in one hand and music stand in the other, and sallied forth towards the parlour. As he began to move, the thrills became stronger and stronger and more and more closely united, till they became one continuous thrilling over his whole body.

Time appeared to be long, to be counted, not by minutes and seconds, but by days and months. In trying to descend a flight of stairs as rapidly as possible, he would every now and then wake up from some reverie and be surprized to find how far he had still to go. Began to fear he should never reach the bottom, and had settled down into an easy joy for an endless journey, just as his feet touched the entry below.

All his surroundings appeared so unreal, the furniture of the room seeming but a film, the carpet but a mist, that he began to doubt every thing, even his own existence, till he was re-assured for a moment by touching the guitar box, but it was only for a moment, for hardly had he left the box than he doubted he had had hold of it. All seemed a dream.

Feared to stay down stairs lest some one should see him and note his actions.

His sensation on going down stairs was quite different from that experienced on ascending. The vapory stairs were like cushions to his feet, which his elastic toes scarcely pressed. With the lightness and swiftness of a bird he seemed to waft himself into his room. Every thing upstairs had the same ghastly, shadow-like appearance, the same mistiness that surrounded the furniture of the parlour.

This dread uncertainty in regard to the existence of every thing around him and even of his own body became intolerable.

The pulse seemed to increase in frequency. His arteries throbbled violently. His head beat with great force and quickness. (The pulse however was actually beating slowly.) His head seemed bursting with fulness ; and all the time the thrills, heavier than ever, kept on as at first.

A thick, viscid, almost resinous secretion, exuded from his tongue, without moistening it.

He felt crazy, and shortly a more violent rush of blood to his head, and thought he would be enrolled in the list of suicides.

Remorse at having taken the drug, and tampered with the life God had given him. Thought, the awful Majesty of Heaven frowning down on him in anger. Fell upon his knees and began to pray, but his heart sank within him.

His room seemed a world by itself, totally isolated from the earth, as though it hung in mid-air ; it was no more possible for him to leave it than for an ordinary mortal to leave the earth.

Although the door was wide open, it was blocked up by an imperviousness, which, though invisible and indescribable, was impenetrable.

He remembered having left, at some *indefinite* period, in a small sitting room at a *remote* place, a family of congenial beings, whom he would fain seek, but who, he thought, had departed long ago, leaving that room as tenantless as his own. His *reason* told him this was *not* so, but he *felt* it *was* so. This was unbearable to him. "I hurled my body through the door way, and overcoming step by step the almost insurmountable resistance, commenced my downward journey."

He could feel his mind working the mechanism of his body much as an artificer uses a tool. Gradually, he began to notice the separate existence of mind and body, and had cognizance of the spiritual body, being behind the temporal, as if pushing it forward and making it act.

While his body, trembling and crushed, quaked in its utter helplessness, his soul seemed to exult in a more congenial atmosphere, as though glad of its partial disenthralment.

Thick, clammy perspiration exuded from all parts of his body, which he attributed to galvanic action, his stomach being the battery, haschish being the acid, and the nerves the conductors. Feared he should soon be dried up to a mummy.

To replenish the water in the system he began to drink, but on taking one swallow, it appeared to him like a river flowing continually down his throat. Stopped for fear he should be killed by imbibing too freely. A short time after drinking, forgot the sensation, and thought the water had formed one large bolus, which glided down, surrounded by an atmosphere, without touching the sides of his throat.

His hands were cold, clammy, his eyes dull and glassy, and his face pale. His friends getting alarmed gave him a mixture of Camphor, Ether, Capsicum, Lobelia, Brandy, &c., of which he reluctantly took, at their request, a dessert-spoonful, and was immediately thrown into horrible agony. The ether seemed to drive all the thrills into his head, which racked his brain so violently that he thought his head would split. The doctor was sent for, but he argued that unless God was willing, the doctor would be of no use, and that if God willed it, he would get well without the doctor; so let us go to God at once, and not wait for the doctor. Some one knelt in prayer, but started on what he thought an irrelevant subject, so he arose and broke them off.

On going to supper, as soon as the full blaze of light from the dining room fell upon his eyes, all his sadness vanished, and he thought he was composed of light, all his viscera were composed of light, which, radiant as the sun, threw their beams upon his soul, and he was happy.

He took a small piece of meat, and thinking over all he had heard and read upon the subject of feeding, he put it in his mouth and proceeded to masticate the same, when to his great satisfaction, the saliva ran into his mouth without his having to hunt up the glands and induce them to secrete. He could see the saliva like a mob of long legged little imps scrambling through the meat in every direction.



He masticated, masticated, masticated, as if it had been the business of his life to masticate, and as if he has been chewing on that piece of meat from the day of his birth. Suddenly he remembered that he had forgotten half of his business, and that it was time to swallow it. But how could he do it? To command the muscles of mastication was easy, but to get command of those of the pharynx, he could not. He managed to swallow it by a sort of compromise; doing half the work himself, and letting the rest do itself, and when he had finished swallowing, he applauded himself on account of the good generalship he has shown. It requiring such an amount of generalship to eat one piece of meat, he did not attempt any more, and rose from the table.

After a dose of *nux r.* after supper, he did not like music of which he was so fond before, but broke off in the middle of a time, though he was playing with more than usual pathos.

For a while after, his mind was capable of greater intellectual exertion. During the succeeding week, read a work on Psychology of over seven hundred pages, and could for a long while after refer to any part of it without his notes, which he could not have done before or since.

For two or three weeks after felt once in a while just as he fell asleep, a regular haschish thrill. And for several months a rispig sensation in the brain, while falling asleep or waking from sleep.

Sep. 8, 1866. Took one grain of the resin of *Cannabis Indica*, and procured the following symptoms during the following two days.

Itching in face, shoulder, abdomen and feet, relieved by scratching.

Sleepiness, drowsiness.

Drowsiness, with cold feeling of back of head and neck, as though air blew thereon.

Fullness and heaviness in forehead, with pressure at root of nose and over the eyes; headache over left eye; dull hard pain in the top of the head; pain in the back of the head, left side.

Seething or crisping of blood through the brain, quick, like a flash of sheet lightning.

Sensation as though the muscles of the face were drawn tightly around the jaw.

Drawings in the muscles of mastication; stinging in right side of face as though stuck with pins; leaves on scratching, but comes again immediately on another part of body.

Slight pain at back of eye ball.

Pain and singing in left ear.

Itching of nose continually.

Pain in lower molar teeth, right side.

Increased flow of thick, tasteless saliva.

Slight but continual eructations of wind, tasteless.

Pain in pit of stomach; nervous grumbling sensation in the stomach, coming on every few moments, and extending up into the thorax.

Disagreeable flatulent rumbling in the bowels at night, when lying down.

No desire to urinate (first day).

Continual desire to urinate (second day).

Cold feeling in the small of the back and between the shoulders. Sensation as though a red hot iron rod was passed from sacrum up the spine to the atlas, around the occiput, over the eyes from right side stopping at left ear, leaving a feeling as if charred, taking six hours to perform the passage.

Pain in front of the arm and back of the elbow.

Itching of the sole of the foot ; pain and itching in left leg just above the knee.

Nervous, restless feeling over the whole body.

Feeling of warmth over front of body and arms ; sweat of limbs, and moist feeling of the whole body, especially the front ; moist warmth of the hands.

April 16th, 1868. Took a few pellets of *Cannabis*, Fincke's 5000th.

In after part of day, metallic taste on tongue, with a dry sensation and exudation of gummy mucus.

Dec. 2d, 1868, 11 o'clock A. M. Took 2 grains Squire's Extract of *Cannabis Indica*.

Shortly after, felt a cold feeling in stomach, very disagreeable as though he had drunk cold water.

From 1 to 2 o'clock P. M., frequent empty eructations of wind flavored with *Cannabis*.

10 P. M. Sharp pain in right side of head, running from inner canthus of eye up back and out.

Pain from bottom of orbit, through brain and in the ear.

All the afternoon had headache, pressing outwards over the eye. Viscid mucus from tongue, over its whole upper surface. Tongue and throat has a dry feeling but no particular desire for water.

Aching pain in leg, near left external malleolus, while lying on the back not when lying on side.

Dec. 4th, 9 A. M. An icy coldness across the root of nose, comes on when leaning forwards writing, goes away when moving about.

11 A. M. Boring pain in right parietal protuberance.

Jan. 13th, 1869, 6 A. M. Took 3 gr. *Cannabis*.

Immediately on lying down again, a disagreeable rumbling in the abdomen, as though a looseness was coming on.

Singing in left ear.

Stinging pain in left ear.

Boring pain in right ear.

Boring pain in right lower molar teeth, better from pressure, worst from grinding them together.

Bone pain in metatarso-phalangeal joint of right foot.

Cold burning (like turpentine) in vermilion border of lip and point of nose, left side.

Heavy frontal headache, in the brain, more to left side.

A warm tingling sensation, over the whole left side of face.

A cool, burning, stinging in inner corner and canthus of left eye and adjacent side of nose.

9 A. M. Boring pain immediately above and back of right ear.

Dull pain in right lower molar teeth.

Stinging, burning, as of blister on back part of tongue, right side, at anterior pillar of fauces.

Dry, feverish feeling of left nostril.

10 A. A. Pain in right upper jaw, at root of first molar tooth.

3 P. M. A well marked burning line from lip to chin, straight down left side, as though it were a cicatrix.

Jan. 14th. Was wakeful all night, mild pleasant dreams; cat naps.

6 A. M. Before rising, a considerable collection of thick mucus on tongue, tongue feels dry, as if scalded.

4 P. M. Pain very severe in outer edge of trapezius muscle.

The prover adds the following observations on the therapeutic value of the drug:—

With the exception of one dose of Fincke's; these provings were made with the one preparation or extract. I have frequently taken it without noticing any symptoms, and have failed for the most part in procuring symptoms from friends who have taken it.

I have exhibited it in the thirtieth potency to a friend who was subject to spells of nervousness, which reminded me strongly of my first proving of the drug, and always with a good result.

I have also exhibited it in the thirtieth, in dropsy of the face, hands and feet. A colored woman, aged sixty years, was so troubled for a number of years; she had formerly gained some relief from a Homœopathic physician, who having died left no successor, and also becoming worse under domestic treatment, her employer applied to me. I had no symptoms excepting that she was so swollen about the face, hands and feet, that she was unfit to attend to her duties. Three doses of the thirtieth of *Cannabis*, taken three nights in succession, made the dropsical swellings totally disappear. They returned again, and were again relieved by *Cannabis*, very promptly.

Other cases have come under my notice where dropsical effusions were decreased by *Cannabis*; and I also had a partial proving from a friend which bore strong resemblance to dropsy. He complained of dull heaviness of the left arm and hand, with swelled feeling, and at other times a pressing pain as though the parts were being pressed apart with blood.

## LUNATIC ASYLUMS IN BENGAL.

It is a matter of no small regret that philanthropists, like Miss Carpenter, who would seem to spare no pains to bring to light the treatment of criminals in our Jails have not hitherto shown any inclination to enquire into the condition of patients in the public hospitals, or of inmates in the lunatic, leper and other asylums in this country. And yet the latter have peculiar claims upon their good will and benevolence. If they had paid any attention in the direction we indicate, they would have witnessed a most helpless class of men, the majority of whom are perhaps the innocent victims of selfish individuals or of abnormal social and political systems, in the most abject state of misery. True it is, that wherever practicable, the Government is by no means averse to nominate committees for the supervision of the institutions in which these men find an asylum. But whoever has personal knowledge of these institutions, especially in the countries of Europe, is aware of the inestimable value of an independent enquiry into them by individuals who are chiefly moved by benevolence towards their less fortunate brethren.

The above reflection has been suggested by a perusal of some of the recent reports on the Lunatic Asylums in Bengal. These institutions seem to have existed from a very long time, but little or no information can be gathered about them prior to 1854. It appears that in the year 1787, an institution was established by Government for the treatment of European insane officers and soldiers; and that in 1818 a private institution was set up for the reception of other European and Eurasian insanes. In 1821, the government institution was amalgamated with the private asylum. This system "continued up to 1855, when the institution was purchased by Government, and became a Government establishment in all respects; a covenanted medical officer was appointed Superintendent, a suitable establishment allowed, and a set of rules framed for the proper and efficient working of the asylum." The institution adjoins the Presidency General Hospital. The building is very old. In different positions within the enclosure, 'are ranges of buildings divided into rooms for patients; each apartment is about twelve feet square, every quarter is thoroughly ventilated, and the accommodation is sufficient for 62 males'. "There are also fourteen rooms for

females in a separate enclosure in one corner of the compound." Applications have been made from time to time for the construction of a new building upon an improved plan; but as the scheme which has been recently sanctioned for the conveyance of insane soldiers to England in the Government transports, will necessitate their transmission to the Bombay Asylum at Colaba, the number of patients here must be considerably reduced, so that there will be no necessity perhaps for making any change in the buildings. The Bhowanipore Asylum will now cease to have its former importance. It is proper therefore that the establishments of this institution should be proportionately reduced, and the saving might be employed in the improvement and extension of the native asylums. This recommendation of ours is fully warranted by the state of things which existed in 1870 (the latest year of which we have any information), when the proportion of attendants to the patients stood at as 1 to 2, the proportion authorized by Government—and which must be deemed to be amply sufficient—being as 1 to 3.

As to the asylums for natives, the information to be gleaned, is still more meagre. Nothing can be known about them prior to 1823. In that year seven asylums appear to have existed in the Bengal Presidency, and were "placed on a footing of complete efficiency," and the numbers under treatment at Russapugla were 212, at Dacca 70, Moorshedabad 98, Patna 70, Benares 101, Bareilly 180 and at Monghyr, appropriated only for military patients, 53. No data can however be obtained as to the exact state of the efficiency of these institutions. Hardly anything is known of them during the next thirty years. In 1855, the Medical Board submitted to Government a valuable report on these institutions, and it is from this report that we can glean a few facts. In the last mentioned year the Asylum at Monghyr does not seem to have existed, but a new one had sprung up at Dêlhi, which was closed afterwards and revived again in 1864. An Asylum was also established at Lahore in 1849, but did not continue to exist long. It was revived again in 1853 or 1854. Four other institutions have since been established, two in 1864, viz., those at Cattack and Nagpore, and in the following year, two others, viz., those at Jubbulpore and Lucknow. The Asylum at Russa was removed to Dullunda, its present situation,

in 1847, and that at Moorshedabad is now called the Moydapore Lunatic Asylum. There are thus twelve Lunatic Asylums in all in the Presidency of Bengal at the present time. In addition to these, Madras has one and Bombay about four or five. We are obliged however to confine our attention chiefly to the five Asylums in Bengal, as we are in possession of very scanty information about the rest. About fifteen years ago, a writer in the Calcutta Review remarked that the report of the Lunatic Asylums was "chiefly valuable for its brevity and its barrenness." Such a charge cannot be brought forward against the reports of recent years, though it cannot be denied that there is yet much room for improvement. Within the last few years much attention has been paid to the provision of suitable accommodation, and of proper employment and amusements, to the supply of proper diet, and clothing, and to the sanitary arrangements of the buildings. It is perhaps superfluous to mention here that of the five Asylums, the one at Dullunda alone receives the almost exclusive attention of one Medical officer—we say almost because besides permission to have private practice which is very necessary; provided it is confined within proper bounds, the officer in question has lately been entrusted with additional work, and we doubt very much whether this circumstance does not to a certain extent at least interfere with an efficient management of the institution—and the others are only occasionally visited by the Civil Surgeons of the respective stations, who are in charge of them. This difference in supervision is distinctly marked in the annual reports of the asylums; for while those relating to Dullunda afford definite information as to what is being done both as to treatment and general management, in those of the others statistics of a general and somewhat vague character chiefly supply the place of detailed particulars. We are accordingly forced to direct our chief attention to the reports of Dr. Payne, who is in charge of the Dullunda Asylum for the last twelve years.

The first point deserving of attention is that the Indian Asylums, unlike those of Europe, are chiefly intended for criminal and pauper lunatics, who, if left at large, frequently prove dangerous to society, or obtain at the best a precarious subsistence from private charity. Their reports are not calculated therefore to throw much light on the nature and extent of insanity among

the general population—a subject which has recently received much attention in Europe, but about which nothing can be said positively in reference to this country. Accordingly European theories, such as the increase of insanity with the onward march of civilization, which occasionally meet our eyes in the older reports of our Asylums, hardly find any place in the recent ones, although the Inspector General of Hospitals endeavours in his general review to quote some of them occasionally. Soon after assuming charge of the Asylum at Dullunda, Dr. Payne attempted to open it to the public at large in the most effectual way that can possibly be suggested, by demanding payments from those, who or whose relatives have means to meet the same, and by providing for them separate accommodation and other comforts—comforts varying according to a somewhat graduated scale of payments. This scheme has been crowned with a certain amount of success. The payments from patients have increased from Rupees 108 in 1861 to Rs. 1641 in 1869, but the report does not give the number of paying patients, which we hope will be supplied in future years. The system received the assent of the Lieutenant Governor in September 1861, and has since been extended to the other asylums with favorable result. It may be mentioned here that in Europe doubts are beginning to be felt as to the real efficacy of public asylums for lunatics in general. Dr. Maudsley, in his last Presidential Address before the Medico-Psychological Association, threw out grave hints in support of this doubt, and noticed that there is certainly such a thing as “an asylum-made lunatic.” Although the learned doctor did not meet with general support from the Association, the discussion which his address elicited, shews that the former confidence in the efficacy of the Asylums, has been considerably shaken. In a public asylum sufficient attention cannot be paid to each individual lunatic. It cannot present varied sceneries before him, nor afford him occupation according to his particular idiosyncrasy—measures which are now deemed to be absolutely necessary for the recovery of an insane; it serves moreover to confine the medical officer in charge to a special kind of practice, which has a tendency to breed narrowness of mind.

The first point in the reports which claims our attention is the classification of the mental disorders. This is indeed the

most difficult subject on the present question. From what have already been noticed above, it will appear that patients in the incipient stages of mental disorder—stages in which recovery is considerably easier, if proper attention is paid—are seldom, if ever, admitted into the Indian Lunatic Asylums. These therefore must be omitted from our consideration. On the subject of classification, Dr. Payne remarked in 1867 :—

“There is no branch of medicine in which names are so vague as in mental disease ; none in which there is so little ground to base an exact system upon. Pathology, the great framework on which classification of physical disease depends and grows, gives no help here ; for organic cerebral change is as yet but loosely connected with insanity, and the various forms or manifestations of madness pass by such imperceptible degrees into each other, and under such frequent changes in the course of a single case, that little accuracy can be hoped for in naming them.”

The above extract has reference to classification according to varieties of disease. In opposition to this, Dr. Payne placed the French system, introduced by Morel, viz. classification according to causes. This system “leads to a minuter subdivision of classes, and consequently to greater uniformity than any other.”

“It may illustrate,” continues Dr. Payne, “the influence on the mental health of communities, of their habits and occupations, of physical diseases, of climates, or other circumstances of local geography, and of inheritance ; and in this manner, if carefully followed out, may, in course of time, afford trustworthy data for preventive legislation. But on the issue of the disease, the results of treatment, the comparison of various methods, &c., &c., which, for administrative purposes, are scarcely less important, it throws no light whatever. For the risk which lies before a lunatic in every case but that of inheritance (and in some degree in that also), is found to be more connected with the form and duration of his illness, than with any antecedent circumstance. Moreover the system of Morel is quite inapplicable to a country where the simplest facts connected with the origin of a case are, in many instances, quite unascertainable; and this difficulty alone appears to me to forbid, as useless, any attempt to supersede the broad classification in use, in spite of its admitted vagueness, and the consequent want of uniformity which attends its use.”

This admitted vagueness and consequent want of uniformity, are serious obstacles to a proper comparison of the results of the different lunatic asylums. And yet the comparison has gone on to be made from year to year, and published at the expense of



the state, without attention being paid to this serious drawback at all commensurate with its importance. What value to attach to statistics thus obtained with which the Indian Blue Books are chiefly filled, we leave it to our readers to judge. It may be mentioned here that from the year 1869 the official nomenclature of the diseases has been adopted. This system divides the disorders of the intellect into five classes (1) Mania, where the disease is accompanied with excitement and which is subdivided into acute and chronic mania, (2) Melancholia, where there is depression, often accompanied with suicidal tendency (Monomania is classed with one of these two classes according to character); (3) Dementia, acute and chronic, where there is loss or feebleness of the mental faculties; (4) Congenital Idiocy; (5) Congenital Imbecility; and (6) Paralysis of the insane.

This classification is certainly not much superior to the one it has replaced. It has grave defects. It does not come up to the present state of physiology and pathology. And no classification of disease, which has not pathology for its basis, is entitled to the name scientific. Such classifications can never stand; they may be used provisionally only. We have not however space at our command to point out the defects in detail of the classification in question, far less to substitute one of our own. We hope to return to the subject in a future number.

The next subject noticed is the causes of insanity. This also continues in a very unsatisfactory state. It cannot indeed be expected to be otherwise. The majority of the inmates being paupers whom the police pick up from the public streets, what information can be gathered about them? So in the statement of causes of mental disease the column headed "unknown" swells at the expense of the rest. In the year 1870, no cause could be assigned to 59·4 per cent of the total number of the insane cases. Amongst the known causes smoking *gunja* (cannabis) is said to be predominant. In 1870, it constituted 27·5 of the whole, 67·8 of the known causes and 77·8 of the physical causes—thus shewing a strange contrast to the results which have been arrived at in Europe and America, where moral causes are reported to be in the ascendant. On this subject the remarks of Dr. Payne are deserving of the greatest attention. Referring to intemperance in general as a cause of

insanity, he said in his report of 1869 on the European Asylum, "I have in former years recommended that statements with reference to this cause should be received with great caution, as intemperance as an early manifestation of insanity is so common that it is often mistaken for its precursor, and it will I think be generally found that the more carefully inquiry is made into the antecedents of insane persons, the less will be the proportion of cases whose origin is ascribed to intemperance." We cannot find in the reports on the native asylums, any trace of attention having been paid to the above judicious remark, owing doubtless to the difficulty of obtaining accurate information. But to prevent misunderstanding, this fact ought not only to have been constantly borne in mind by all the Superintendents, but it ought to find a prominent place in their reports as well. We regret to find the Inspector General of Hospitals to be altogether silent on this point. The value of statistics depends on the care and accuracy with which observations are made, especially on the more nice points, and traces of this care and accuracy ought to be manifest in the reports prepared; otherwise comparisons will result, as in the majority of cases they do, in the deduction of erroneous conclusions, which if applied to practice, might lead to serious consequences.

On the subject of medical treatment, the information furnished by the reports is very meagre. In fact, Dr. Payne is the only medical officer who has supplied any detailed information on the subject. He deprecates very justly the heroic mode of treatment with blisters, setons and other surgical means, and directs treatment mainly to maniacal phrenzy or excitement and epileptic convulsion. For the former he largely uses digitalis and hydrocyanic acid, and has found hypodermic injection of morphia to be generally more powerful than either. He has also found atropine, hypodermically applied to be of service in reducing the frequency of epileptic seizures.

We are bound here to state, and we do so on the authority of positive experience, that in the treatment of disorders of the mind, homœopathy is immeasurably superior to the old system. Its resources are, in the first place, more numerous, and in the second, infinitely surer in their action, than the boasted heroic measures of the dominant school. It places at the command

of the practitioner both antidotic and specific remedies—antidotic in relation to the cause, physical or psychical, and specific in relation to the seat of the disease. Obtained at the very commencement, many a case, which would inevitably have terminated in confirmed lunacy, has been by its aid brought to a most successful and charming issue of restoration of mind.

With reference to the treatment of anæmia and anasarca by pure milk, used not as an article of extra diet only, but as a substitute for all diet, Dr. Payne states that it has been found to be very successful. This is what the Kavirajs do, and in some cases we can bear testimony to its success. But it has this serious drawback, that there is greater likelihood of return of the dropsy, when water is resumed as the natural drink. We should, therefore warn against the absolute prohibition of water after the Kaviraj fashion.

.On the subject of personal restraint, Dr. Payne differs somewhat from the current opinion. He denies most emphatically that it is mischievous in all cases, and states that it “is good or bad in the absolute, precisely as it is good or bad in its effect on the individual subjected to it.” Lunatics suffering from ulcers are prevented from injuring them with their hands, by having their arms confined to their sides with broad bandages, and maniacal frenzy is occasionally controlled “by fixing the maniac on a mattress, with a broad sheet covering his entire body.” “It needs only to be guarded,” continues Dr. Payne, “from being too readily and injudiciously employed, or too long continued to become a most humane and useful measure.” Latterly however he has introduced an excellent device as a substitute for the broad sheet, which has been described by him as follows :—

It consists merely of a long canvas bag with a collar fitting loosely on the neck, sufficiently wide to prevent any very active or dangerous movement of the limbs, without preventing such change of posture as is necessary for relief. This bag envelops the whole person except the head, and its edges are made fast by strong tapes to the cot on which the mattress is placed.

Its use is not confined to preventing a mad man from damaging himself or his neighbours ; it is constantly found to tranquillize excitement, which yields to no other treatment : and this not by any terror that it inspires, or pain that accompanies it, but because it simply restrains mischievous movement without causing discomfort or alarm. It is more gentle, safe

and strong, than the hands of the best tempered attendants, and is thus the best preventive of one principal cause of fatal exhaustion in mania.

Dr. Payne further states that the employment of this bag is now openly advocated by writers on the subject in England.

Above all Dr. Payne considers industrial occupation to be the best remedial agent for insane patients and is inclined to think that "a system of industry and discipline judiciously regulated, is precisely that which remedially also, as well as economically, far excels all others." According to him, it has not only the effect of allaying some of the active symptoms of insanity, but that works of this kind are no less salubrious to the patients in a physical sense. Its other effects have been so finely stated by Dr. Payne in his report of 1862 that we cannot resist the temptation of giving below an extract from it :—

Its tranquillizing effect is further seen in the impunity with which nearly all the inmates of the place handle dangerous implements. Bands of lunatics are scattered daily through the premises at work, using either the kodalee, the hammer, or the dhow ; and though to every one of them both the weapon and the victim are at hand, if he were mischievously disposed, not a single disaster has occurred. The habit, too, so common with insane patients, of tearing clothes in pieces, has almost been forgotten here.

In the morning reports, which are presented daily of all that transpires, the number of patients reported to have been noisy on Monday mornings is very much larger than on any other day of the week. Labor is suspended on Sunday.

It is a curious and interesting phenomenon, and illustrative of the complete subjection of reason to imagination in certain cases, that the willingness of many lunatics to employ themselves, if carefully directed, is but little affected by the delusions which possess them. The best weaver in the Asylum was a pseudo king of Delhi, whose thoughts were divided between plying the shuttle and counting his Elephants, and who was perfectly happy in the combination. At the present time there is a self-styled Rajah of Burdwan, who, though lofty and imperious to an extreme degree in his bearing towards those around him, would be a treasure in the House of Correction for his serene untiring diligence in breaking stones. Reasoning is in abeyance and no thought of incongruity presents itself to disturb his mind.

There is some diversity of opinion as to the kind of labor that is most suited to lunatics. There is the skilled labor and the unskilled labor, there is labor requiring a greater or a less amount of muscular exertion, and there is also the in-door and the

out-door labor. Dr. Saunders thinks that "in the majority of cases light work, such as cloth manufacture, is much more suited for lunatic employment than pounding soorky or manufacturing oil." But Dr. Payne has always claimed a greater latitude in this respect, and his example has been followed by the superintendents of the other insane asylums. Dr. Murray thinks that hard work requires good feeding, and as it can be afforded by the profits of the workshops, an increased diet for the hard worked insanes might be employed with advantage." The reports do not shew however that sufficient attention is paid to this wholesome advice. Dr. Payne states as follows in his report of 1870 :—

In forming an opinion on the burthen and suitability of the forms of industry in use, it must be observed that the task imposed on laborers elsewhere by soorky making, oil-mill, &c., is here indefinitely reduced by dividing the labor of one between several, by limiting the hours of work and imposing no fixed daily outturn.

But the other Superintendents do not seem to pay similar close attention to this subject, and Dr. Brown the Inspector General, has not noticed it at all. Here is an excellent question for the Lieutenant Governor to direct his attention to. It is very necessary that something should be done to give it a somewhat definite solution.

Another subject of great importance is the education of the insanes. This subject has been only twice noticed by Dr. Payne, and by the superintendent of the Cattak Asylum. Dr. Fleming stated in 1864, "There has been no attempt at systematic education among the insane. One Mahanto read Oriya stories, and taught me to read a little of the language, but he recovered sufficiently to be made over to his friends;" and his successor in 1866 remarked, that "Oriya books are furnished, but I am not sure that they do much good. I propose procuring a few books of a character more suited to grown-up persons. One criminal lunatic has been taught to read and write;" but he furnishes no further information on the subject. Dr. Payne is decidedly opposed to any attempt at what he calls primary education in a lunatic asylum. Some of his observations on the subject are deserving of the most serious attention. Dr. Payne states :—

The physiology of man provides that when the body is set in order and mature, the mind shall acquire its capacity as a necessary consequence and finish ; and if no pains be spared to secure these conditions for the insane there need be no fear that opportunity of recovery will be lost. The damaged organ is the last that should be laid under forced requisition during disorder. If this be done there is danger of imitating the well known result of urging the education of children prematurely.

Again in an insane the distinction between mental culture and mental soundness ought not to be lost sight of. " In straining after the former without first securing the latter the great end and object of treatment appears to be often frustrated. This object should be to restore to the brain its capability of acquisition, not to press acquirements upon it while it remains incapable." Dr. Payne does not object however to impart education to those insanes, " among whom the general pursuit of knowledge through books formed a habit of previous life." He very justly thinks that in such, being the return of a natural habit, it cannot do otherwise than assist, while it indicates, the progress of recovery." " But these cases," he continues, " are rare in the Pauper Asylums of India, and the primary education against which I venture to contend, is the only form in which it can be attempted here."

For these reasons no attempts are made to educate the insanes in the Asylums. Dr. Payne has forgotten however the fact that the Indian Asylums do make provision for paying patients, and the reports shew that such patients are gradually on the increase. Amongst these patients at least there must be some not wholly unknown to letters. It appears from the report of the Asylum at Cattak for 1866, that in that year fifty per cent. of the inmates there could read and write. Similar enquiry in the other asylums might bring to light a like state of things ; and for such cases as these, according to Dr. Payne's own reasoning, books ought to find a place in the asylums. As to the objections of Dr. Payne to teach insanes to read and write for the first time, they are apparently *a priori* objections not based upon sufficient experience ; and the Doctor has shewn no reason why the stern facts obtainable from actual experience might not lead him to modify his opinion on the subject. It therefore appears to be clear that attempts should be set on foot on a very limited scale to give education to a select number of inmates in the asylum, and the

result of the experiment be carefully recorded, or sufficient practical reasons be given for not attempting it at all.

We have one more suggestion to offer yet. Dr. Payne asserts that "organic cerebral change is as yet but loosely connected with insanity." It is then the bounden duty of every physician in charge of lunacies to devote his closest attention to this point. The peculiar conformation of the head of every inmate should be carefully observed and recorded, his peculiar habits and idiosyncracies noted, and the peculiar defects of his mental faculties must also be noticed. Above all a careful *post mortem* examination ought to be made of the body of every lunatic dying in the asylums, especial attention being paid to every minute part of the cranium, and occasional comparisons being made with the heads of individuals of known sound mind. There can be no doubt that a persevering adherence to a course like this, on the part of the Superintendents of insane asylums, will throw much light upon the pathology of mental diseases.

There remains now another subject of the greatest importance, namely, the sanitary and other arrangements of the asylums and the sickness and mortality among their inmates. As this subject requires a more detailed treatment, we will take it up in our next.

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## REVIEW.

*Homœopathy, an Inductive Method of cure.* By L. Salzer, M. D.

Calcutta: Messrs Thacker, Spink & Co.

DR. SALZER divides his Essay into two parts. In the first, he treats of Induction in Therapeutics, in the second, of Homœopathy. In our present number we have space only to review the first part.

The author reduces "the various methods adopted, from the most ancient times until now, by thoughtful physicians in the cure of disease" to the four following classes:—

1. - To imitate nature in her process of restoration. Knowing, for instance, that a catarrh, when getting well of its own accord, disappears usually on the breaking out of a profuse perspiration, this method would require that such means be employed as will produce perspiration.
2. - To oppose the morbid phenomena. Thus the abnormal process of calorification, in fever, has to be checked by cooling agents, that is, by such agents as are known to reduce the heat-evolving power of the body.
3. - To assist or stimulate the natural functions of the diseased organ or organs, tissue or tissues, with the confidence that by so doing, healthy function will be restored, and disease will consequently disappear.
4. - To administer such remedies as have proved themselves to be curative in a given case, although their *modus operandi* cannot be explained, in other words, although the fact of their being curative cannot be assigned to any other known fact or principle.

This analysis, however "careful" it might look in the eye of the author, we can hardly look upon as an exhaustive one. For to the heads already enumerated might be added two others—the method of treating disease by what has been called signatures, and the method by expectation. The method by signatures is one of the primitive modes, if not *the* primitive mode of judging of the appropriateness of drugs in cases of disease. It was much in vogue amongst thoughtful physicians of ancient times, and notwithstanding a certain superstition attaching to it, it has been recommended as worthy of preliminary trial by thoughtful physicians of the present day, including even some members of the advanced school. The method consists simply in selecting those drugs for those diseases, between whose external appearances there happen to be any striking similarity; as for instance, the yellow medicines, such as sulphur, nux vomica, aloes, chamœmomilla, lycopodium, &c., in diseases of the biliary apparatus; eye-bright in diseases of the eyes; lichen pulmonarius in diseases of the lungs; and so on. We for ourselves are not advocates of the method; but we cannot help thinking that it is a rude sort of homœopathy, and that it might be taken advantage of, as guiding us in the selection of medicines that



may be proved. We mention it, however, not because it possesses any intrinsic merits of its own, but only because it is one of the methods which was extensively adopted in ancient times, and which is not without its advocates in the present day, and which therefore ought not to be omitted from a "careful" analysis.

The method of expectation, or *la médecine expectant*, is that to which Sydenham was drifting, but which he had not the courage or rather temerity to adopt in all cases, and which, since the promulgation of homœopathy, has become fashionable amongst a certain class of modern physicians, who think, they have found the secret of therapeutics in the infinitesimal posology of Hahnemann. Dr. Salzer *has* taken notice of this system, if system it may be called, being the negation of all systems, but has not deemed it of sufficient importance, perhaps, to deserve any but a passing notice. As a phase of modern medical scepticism, irrational while pretending to be most rational, and the natural result of the absurdity of the old school, itself an absurdity of the first water, the expectant system certainly deserves a place in the history of medicine, as the last and expiring struggle of the human mind to sound its own knell. It deserves a place and a sound chastisement too, which Dr. Salzer, with his rich vein of irony, could well have administered.

Having enumerated the various methods of treatment or systems of therapeutics, the author passes them under review *seriatim*. The first method, inaugurated, though not exclusively practised, by Hippocrates, is summarily dismissed with a quotation from Russel (*History and Heroes of Medicine*), who himself quotes from Sydenham to show that the imitation of nature was not, as is imagined, an easy affair, for the simple reason that the critical discharges or secretions, which mark recoveries and which therefore the physician was enjoined to forcibly bring about by drugs, were the consequences and not the causes of the recoveries, and consequently it may not follow, as it generally does not follow, that the forced bringing about of these discharges will bring about the sought for recoveries. In solitary cases such practice may succeed, but in the generality of cases it cannot as it does not. Consequently this blind imitation of nature cannot be regarded as furnishing either a sure or a safe guide in the treatment of disease.

The method of contraries, emphatically the system of Galen, is next examined. The great recommendation of this system, and that which, more than the legal authority with which it was originally enforced in the Roman provinces, helped its supremacy over all systems for full fifteen hundred years, is the show of logic in its fundamental principle. The great fault was in the application of the principle and not in the principle itself, in the

the way in which it was attempted to be satisfied, in the arbitrary classification of diseases and in the corresponding arbitrary classification of drugs. We do not think, the principle itself can be attacked as unsound. The arguments that have been directed against it by the author of the Essay before us, as well as by others of our school, including the great founder himself, hold good only as far as the method of its application goes, and not against the abstract enunciation of the law. In fact, we believe that the final enunciation of the law of cure will be *contraria contrariis*, and not *similia similibus, curantur*. However, for the present, we go with Dr. Salzer in his condemnation of the system of Galen, which, as he justly observes, "originally conceived in a pure spirit of scientific zeal, and propagated for the benefit of mankind, became a tyrannic institution, prejudicial to the physician and the patient alike." Galenism reached the climax of its absurdity in polypharmacy. The protest against the system came, strange to say, first from a layman, the great Bacon. The protest became more vigorous in the hands of Boyle, till finally it was raised into almost a death-blow by Sydenham. Sydenham laid the foundation of three schools of medicine, the expectant, the physiological, and the specific medicine school. The physiological school of medicine is the natural offspring of the expectant. For, as Dr. Salzer truly observes, "from trusting Nature's self-restoring tendency, to artificially aiding and promoting cure, is but a step." Sydenham was led to the belief in specific medication, by the singular efficacy of Peruvian bark in intermittent fevers, which he was the first to introduce into English practice. We have no doubt, if this great man had lived down to our times, he would have taught us that some diseases are cured spontaneously and require no aid from the physician, some require only gentle aid in the shape of regulated nutrition and stimulants, and some, a large residue, can only be cured by what should hence be called specifics, that is, by medicines which attack the maladies directly. And more: He would have taught us also that there are stages in the same disease, in which the treatment should consist in absolute non-interference, or in gentle physiological help to the system, or in active drugging.

The functions of the physician consists in distinguishing between these several classes of disease, and the several natural stages of each variety and species of disease. And the most difficult part of therapeutics is the selection of specific remedies, that is, remedies which address themselves direct to the maladies. It is about this, the most essential point of therapeutics, that the medical profession has hitherto been so sadly divided. Are there specifics at all? If there are, are they discoverable? Or are we to depend for our knowledge of them upon chance? These

are questions which must occur to the thoughtful physician, whatever his speculative opinions. There is nothing new under the sun, and the belief in specifics is certainly not new, though, as we have seen, Sydenham was the first to bring it prominently to the notice of the profession. Galen himself betrayed his leaning towards it, by his predilection for nostrums which he used to purchase for large sums of money.

The reason why the doctrine of specifics has not succeeded in establishing itself as the true doctrine of therapeutics is that there was no criterion by which to discover them. In the absence of such a criterion, the doctrine was the play of chance and consequently could not bring the desired certainty in medicine. A few haphazard specifics could not satisfy the incessant demands of the healing art, and hence the disfavor with which the doctrine itself was looked upon by the profession. The criterion, such as we speak of, could only be afforded by a comparison of the knowledge of the disease and a knowledge of the specific. A correct knowledge of disease can never be arrived at by the study of it *per se*. That knowledge is only attainable by the study of its phenomena alongside with the phenomena of health. For it is only then that we come to know that disease is no new entity, but health degraded, the functions being in excess, or deficient, or perverted. Urticæ as this observation may now appear, this is no small knowledge, and this knowledge is only attainable by a sound knowledge of physiology, that is, by an intimate knowledge of the structure and functions of the various organs and systems of which the human organism consists. A knowledge of the specific does not mean a knowledge of its physical and chemical properties, for these cannot be compared with the phenomena of disease, which are degraded physiological functions. A knowledge of the specific, such as is needed in therapeutics, is a knowledge of its action on the human constitution, that is, of the physiological disturbances, it is capable of producing. It is these only which can be compared with the phenomena of disease, and it is these which we must ascertain before we can attempt to discover the relationship that exists between a disease and the drug that cures it.

It was Haller who established physiology on a sound basis, by discovering the specific irritability of living tissues and organs, and thus showing life to be, as Russel expresses it, "the result of two conditions—Irritability on the one hand, or the property of any part to be acted upon by that which should excite in it its specific action;—and a stimulus on the other

hand, or something by which the latent faculty of an organ was called into activity." Dr. Salzer, after the manner of Dr. Russel, thus introduces his readers to the importance of Haller's discovery :—

The light which Haller's discovery shed over the mysterious regions of life was immense. Henceforth organic *function* is no more to be compared to a *work-shop* where the raw materials have to be meted out to each labourer separately by the chief provisor ; and where the labourers (the special organs) are so unskilled as not to be capable of working for themselves, without continual supervision and steady direction. Organic life must be compared henceforth to a *work-shop* where every workman is sufficiently trained for the proper selection of the materials necessary for his peculiar branch of labour ; where each is sufficiently skilled to perform his task, requiring only the stimulus of the chief of the establishment to evolve his inherent capacities for the successful achievement of the whole work :—each tissue, structure, organ, nay more, each cell, the component of a tissue, structure, or organ, in virtue of an inherent capacity, derives from the blood as it circulates, the materials requisite for the due performance of its function under the stimulating influence of its appropriate nerve. If we still wish to maintain the hypothesis of the existence of a soul, we must henceforth look upon its sphere of action, in so far as organic life is concerned, merely as that of a constitutional sovereign who reigns but does not govern ; and not as it was regarded by Stahl, in the collective capacity of a provisor, supervisor, and administrator.

It is a pity the effect of this eloquent passage has been somewhat marred by the illogicalness of the metaphors used. *Function* is work, and *life* is a congeries of co-ordinated functions. Hence function and life can never be compared to a *work-shop*, simply because work can only be compared to work, and not to the place where, and the tools by which it is performed.

The same great man who laid the foundation of a sound physiology also pointed to the true method of laying the foundation of a sound therapeutics, though he did not lay that foundation himself. It was Haller who was the first to recognize the importance of proving drugs in health, in order that their use in disease may be derived with scientific accuracy. "A medicine," said he, "is to be tested first by its effects upon the body in health, and that without any disturbing influence. Its smell and taste ascertained, small doses are to be taken, so as to determine its effects upon the pulse, the animal heat, the respiration, and the excretions. After having ascertained its effects upon the system in health, we may proceed to make our experiments with it upon the persons of those who are ill." This is a remarkable idea for the age in which it was put forth, and need we hardly say the experimentation here recommended is the first step towards laying the foundation of positive therapeutics. "With Haller," therefore as Dr. Salzer justly observes, "begins the period of modern medicine."

Bacon's acumen told him that the general way, in which diseases used to be treated in his day, on the authority of Galen, could not be the correct, scientific way. He saw that as there adaptabilities of special means to special ends, so there must be drugs which, by virtue of their inherent properties, were adapted to particular diseases and those diseases alone. He therefore, noted as deficient "the part of physic which treats of authentic and positive remedies," or, as he also expresses himself, of "particular medicines which, by a specific property, are adapted to particular diseases; and urged that "it would be of great consequence if physicians, eminent for learning and practical skill, would compile a work of approved and experienced medicines in particular diseases." Bacon did not, as, being no physician, he probably could not, go further than suggest a *compilation* of "approved medicines." He no doubt thought that such a compilation would lead to such a knowledge of the approved or specific remedies as to help the physician in their proper selection. Though vaguely believing in specific properties inherent in them by virtue of which they *are* specifics, he had no idea of the nature of those properties, he had no idea that those properties are no other than the powers they possess of giving rise to physiological disturbances in the human organism. Haller's suggestion was, therefore, a step in advance of that of Bacon. And one right step is pregnant with the most fruitful consequence. The next right step, that of actually carrying out Haller's proposal, that of actually experimenting with drugs in health, saw the birth of the New, the positive, the only, because the only possible scientific, system of therapeutics. Dr. Salzer has viewed the doctrine of specifics in all its phases as presented to us by the old school, and most ably shown that the doctrine is, and can only be, true as carried out after Haller's suggestion, and carried out with such admirable zeal and untiring devotion by Samuel Christain Hahnemann.

Dr. Salzer accepts the definition of specifics as given by the Old School, namely,—“That remedy which would, all other circumstances being equal, prove to be the promptest and safest in curing most cases of a given disease, would then be the specific for this disease,” but points out the formidable difficulties in the way of the Baconian mode of selecting the proper specific for a given disease, which chiefly arise from the almost infinite variety of the same disease as nosologically defined, and from the multiplicity of remedies which present themselves as specifics. He shows with great force of reasoning that a rule of selection, other than that of blind empiricism, is absolutely necessary in order that we may succeed with our specific remedies, and, as we shall add, in order that we may understand the reason

of our failures. He completely demolishes the scepticism that is rampant in the present day amongst those physicians who would not step beyond the empiricism of Bacon, a scepticism the natural result of the repeated failures of that empiricism, a scepticism which has finally culminated in the denial of all law in therapeutics and in virtually maintaining the strange opinion that "medicine is after all an *art*, where tact, practical experience, quick perception, and a certain inexpressible discrimination between what will prove to be successful or otherwise, play the principal parts." Dr. Salzer satisfactorily shows that "not only is such an assumption entirely unphilosophical and in strict contradiction with all we know of Nature's order, but it would moreover destroy the *raison d'être* of the empirical method altogether. For," he argues, "if statistics—the alpha and omega of this method—have any practical value at all, they must be supposed to express a necessary order in the succession of those events to which they refer. What guarantee have we, that a future event will, in all likelihood, repeat itself as often as statistics show it to have happened previously, except this—that whatever occurs in Nature, occurs in consequence of some necessary causation, and will, therefore, all circumstances being the same, occur again in the same order of succession. Thus, although statistics do not reveal to us *the* law, they do reveal to us the existence of *a* law, by which they are made possible." It may be, as it indeed is with the majority of those who dabble in medicine, including the whole class of quacks and charlatans, and not excepting those physicians who, with all their boasted learning and orthodoxy, refuse to look into facts except through the perverted medium of their own conceit, it may be, as Dr. Salzer puts it that, "a man may perform a cure without being aware of the existence of a law of cure; he may even, while he does so, protest against the possibility of the existence of such a law; there would nevertheless be no scope for all his skill and talent, were there really no such law."

After having combated the absolutely sceptical phase of the Old School, Dr. Salzer proceeds to grapple with another, in our opinion, the most rational phase, of that school, a phase in which cures are referred not to blind chance but laws, and the affirmation made that there are more than one law, or as Dr. Salzer concisely puts it—"In every pathological case there are *several laws* which concur in the promotion of recovery; and since there are several laws, there can be no *one* law which binds the physician down to the employment of a single definite remedy to the exclusion of all others." We are sorry to see, there is not that clearness in the reasoning by which the author combats this phase of orthodoxy as there is in the reasoning

by which he has combated the other phase, and this for the simple reason that in his zeal he sometimes forgets the difference between the two phases. "The mechanician, they (old school physicians) may say, who has either manual work, or steam, or water-power, or electricity in order to set a given wheel in motion, is by the very fact of having four different powers at his disposal, free to choose according to circumstances, between the one or the other; so likewise is the physician free to determine, according to circumstances, his method and means of treatment in each individual case." This is the version which Dr. Salzer himself gives in his own words of the opinion of a certain phase of orthodoxy. Let us see how he refutes it. He points to the fact that "in most ailments, a remedy is curative in certain case, while it fails in others of the same pathological character to which a different remedy is found to apply." Hence "the choice of the physician is then by no means a matter of simple convenience, but depends upon facts." He would therefore compare the physician, "to a mechanician who finds that an electrical apparatus will sometimes put his wheel in motion, while at other times it will fail to do so, and must in consequence be replaced by some other motive power. To explain these facts by saying that there is no law of cure, would be just as irrational as it would be in the mechanician if he were to maintain that there is no law either of electricity or of dynamical power." Now this argument holds good against those who altogether deny the existence of any law of therapeutics, but certainly not against those who maintain these are several. In the metaphors used, the setting in motion of the wheel is compared to the restoration of health or cure, and it is admitted, as it cannot but be admitted, both by Dr. Salzer and a certain class of orthodox physicians, that the former may be brought about by either electricity, water-power, &c., according to circumstances. This is certainly not denying the laws of electricity, &c.

Having no more space at our command, we are obliged to break off here so abruptly. We need hardly say, we shall return to the subject in our next.

### THE QUINTUPLE NUMBER.

WE have to ask the indulgence of our readers for the non-appearance as yet of the quintuple number (Feb. to June) long due. Uninterrupted professional calls combined with occasional ill-health, have prevented us from pushing it through the press. We hope, however, it will make its appearance at no distant date.

*as from Contemporary Literature.*ON THE RELATION OF THERAPEUTICS TO MODERN  
PHYSIOLOGY.

By DR. HENRY R. MADDEN.

Being the Presidential Address delivered at the Congress of British Members of the Medical Profession practising Homoeopathy, held at Oxford on Sept. 27th, 1871.

To sum up what we have so rapidly sketched concerning the nervous system : We find that the linking together of the body into one is effected by the nervous system in such manner, that what would otherwise be desultory and chaotic assumes regularity and design. We find a series of centres placed one above the other, each having higher and more important duties to perform than the one before ; and each consisting of molecules of a higher order of metabolic complexity, and, hence, possessing a larger amount of stored up force. We find each centre doing all the work it has learnt to do without referring to the higher powers ; but ever seeking help when in difficulty ; and, as a consequence, we find that fatigue is only felt when something new or unaccustomed has to be effected, or when, from disease, the balance between demand and supply has been lost.

While, however, the actions of all the various organs of the body are directed by the nervous system, and their nutrition regulated by the amount of pabulum which they receive ; still the action performed in each case is absolutely dependent upon the properties of the cells constituting the organs themselves. Let these properties be altered in any way, and the action will differ, though the nervous stimulus remains the same. We must now, therefore, enquire a little into the nature of stimulus ; and, as this is by far the most important point of all in relation to Therapeutics, I must be excused for entering into it somewhat minutely.

Recalling what I have already said with regard to germinal matter in the metabolic or living state, we must realize to ourselves molecules having a highly-complex internal arrangement ; and, as a consequence, capable of undergoing an almost infinite number of modifications. Such a molecule left to itself would be incapable of remaining unchanged. The various and antagonizing movements going on among its elementary atoms would inevitably shake it to pieces ; and out of the ruin would be produced numerous frail arrangements of a simpler order. In other words it would pass downwards through the colloid and chemical gradations until it rested in the more stable forms of simple, inorganic, chemical compounds. The only possible way in which the metabolic state can continue to exist is by the perpetual addition of fresh matter so constituted as to be capable of taking part in the intricate movements going on ; and which are unceasing so long as life continues. In one sense, therefore, this pabulum may be called a stimulus in so far that it renders active the property, possessed by all germinal matter, of reproducing itself.

Under ordinary circumstances, as long as germinal matter receives a supply of suitable pabulum, the presence of the latter determines a definite activity of the former ; and a uniform series of changes goes on, consisting, as we have already seen, of the increase of the germinal matter, and the production of formed material. Experience, however, teaches us that any



change in the circumstances in which the germinal matter is placed, as also the presence of any unusual matter, may greatly modify or entirely change the character of the result ; a change which usually shows itself in the character of the formed material. For example, under conditions of health the germinal matter of the epithelial layer of the mucous membrane produces only epithelial cells ; and the surface of the membrane exhales water in sufficient quantity to be always moist ; a very slight change, however, in its circumstances will cause this germinal matter to appropriate pabulum too rapidly, to form the cell-walls hastily ; and, as a consequence, a number of unmodelled cells are set free and floated off in the water with which they are surrounded, thus constituting a mucous flux. Let the change of circumstances be somewhat greater, and the rapidly-formed cells will manifest a new property, viz., that of forming oil globules as well as cell-walls ; and then we have pus in place of mucus. As a consequence of still further changes, the pus formed may be no longer the bland, creamy matter which covers a healthy sore, but a thin, acrid ichor which modifies the life of every portion of germinal matter with which it comes in contact. A still further change may render the germinal matter incapable of forming solid cell-walls ; and, as a consequence, the mucous membrane becomes denuded of its proper covering, mass after mass of germinal matter is washed away ; and we have an ulcerated surface. Now in all these instances the germinal matter has been stimulated in some unwonted manner, and has responded to the stimulus by doing unwonted work. It follows, therefore, that everything which can change the actions of germinal matter or pabulum, is a stimulus ; and seeing that in all the above instances the germinal matter and pabulum did all the work, no new matter having been added, the stimulus must have acted by changing the inter-molecular motion of the mass, or, in other words, it set the change going, but took no further part in the result produced. All this accords with what we have here already seen concerning stimuli, viz., that they produce an amount of change far greater than their physical force will explain ; and also that the amount and duration of the change has no necessary connection with the quantity or permanent presence of the stimulus. For instance I take a needle, and using each time precisely the same amount of force, I scratch gently the following substances, a piece of glass, a piece of lead, a piece of wax, a cake of fulminate of mercury, a crystal of yellow biiodide of mercury, a healthy man's arm, and a diseased person's arm. The physical force employed in each case is precisely the same, the substance employed is in every instance identical, but the result differs as widely as possible. On the glass no visible effect is produced ; on the lead a small portion of the surface is scraped off ; and on the wax a depression is made, and the displaced material is accumulated like a ridge on either side. In these three cases that needle has acted purely mechanically ; and the amount of work done is exactly commensurate with the form and hardness of the needle, and the amount of force exerted in pressing the needle against the substance operated upon. In all the other cases, however, the scratching acted not as a mechanical force, but as a stimulus ; and the result was not commensurate with the force applied ; but was in each instance dependent upon certain peculiar properties of the substance acted upon. For example, in the cake of fulminate of mercury the stored-up force connected with the possible re-arrangement of its elements is so great that the mass is eminently unstable ; and the little scratch disturbed the equilibrium so completely that an entirely new arrangement of its elements instantaneously took place, the molecules rushing with destructive violence into their new position. In the yellow crystal of biiodide of mercury a change of molecular arrangement commenced at the point acted upon, and spread from thence through the whole

mass. Now it is evident that the result in these cases cannot be measured by the force employed. No addition to the force would have apparently altered the violence of the explosion of the fulminate ; neither was a continuance of the scratching necessary to complete the change in the iodoide. The scratch was the stimulus, but the result was entirely dependent upon the properties of the substance scratched. Precisely in the same way, and for the same reason, the scratch on the two arms produced entirely different results. In the healthy arm a line of roughened epidermis, and a slight capillary injection of the skin, were the only visible results, and in a short time these disappeared ; whereas in the diseased arm a series of changes were initiated which, passing through the stages of irritation, inflammation, suppurative and pyæmic fever, terminated only in the death of the patient. In this instance, also, nothing was added to the body, nothing remained in action ; but the properties of the parts acted upon being entirely different, the result was equally diverse. Here, also, the dose had little or nothing to do with the result : a single scratch in a sufficiently diseased person being just as capable of producing fatal disease as a dozen.

The next point for us to attend to is, that while the changes which take place in germinal matter are directly dependent upon its internal molecular arrangement, nevertheless the agent effecting these changes is invariably a mode of motion, or, in other words, physical force ; and there is absolutely no proof whatever of the existence of such a thing as *vital force* neither is there the slightest need for the conception of such a force. Living matter differs from dead material in its *properties* ; and these alone are sufficient to explain all the phenomena ; hence we must be careful to speak and think of *vital properties*, and to abjure altogether the false and misleading term of *vital force*.

An illustration taken from physics will aid us much in understanding the complex actions and re-actions of the living organism, will teach us much respecting the nature of disease, and will also point the way to its correct scientific treatment. Let us picture to ourselves a large establishment wherein are made various manufactures in iron, steel, brass, wood, &c., all of which are received in their crude states. We should thus have in one building a number of different machines, each constructed so as to do its own appointed work ; and each requiring to be supplied with the material upon which it is to exert its formative power. In the case before us the machines themselves are constructed of the same materials as the substances which they elaborate ; and it is easy to conceive that numerous machines, serving very different purposes, might be composed of the same relative proportions of iron, steel, brass and wood ; and, moreover, it is equally conceivable that the manufactured products might also contain the same relative proportions. In such a case chemistry would tell us that the manufactory can only turn out in a completed state the same quantity of iron, steel, brass and wood which it receives as material to work up. It could also analyse the machines ; and finding them to consist of the same ingredients in the same proportions, it could explain the chemistry of the entire process ; but it would have told us absolutely nothing of the manufacture itself ; and, moreover, the machinery might get out of order to an extent rendering it quite incapable of making any useful article, and yet the chemist might find nothing wrong. Let the physicist next examine our manufactures, and, tracing every process from beginning to end, he will find no process which he cannot explain ; every result is the direct consequence of the force employed, and the effect in every instance precisely corresponds in amount to the quantity of force expended ; but here, also, so long as he contents himself with measuring the temperature and calculating its mechanical equivalent ; so long as he busies himself with elasticity, weight, expansion, contraction, &c., he will throw no useful light

upon the intricate working of any one of the machines, nor will he show how any errors are to be corrected. Before this can be done each piece of apparatus must be studied anatomically, as in this way alone can its mode of motion be ascertained. The amount of mechanical force exerted in moving its several parts teaches but little, we must know all the possible motions of each individual part, and their mutual influence; and we must be accurately acquainted with their order of sequence, ere we can judge of the effect of the whole. This, even, is not enough, as most manufactures require their several parts to be prepared before they are fitted together, so as to ensure perfect articles; and since these preliminary operations, though essential for the perfection of the manufacture, are by no means necessary for its mere putting together, they may be slurred over, or omitted, without the defect becoming at once apparent. Lastly, in such a manufactory there must be a large staff of workmen, each attending to his own work, and each obeying orders received from those placed over him. We have now an analogy to the living body sufficiently accurate to clear up many points of difficulty. The workmen of course represent the nervous system, the machines are the germinal matter, the products are the formed material; and the material brought into the manufactory is the pabulum. Glancing at our simile we at once perceive what will constitute perfect health, viz. :-

1. Every man fully attending to his own business, and giving and obeying orders. (Healthy nerves).

2. Every machine in perfect order, and made of the best materials. (Healthy organs).

3. A sufficient supply of the crude articles on which it works. (Healthy food).

4. The thorough preparation of this crude material before using it, to make the more important manufactured articles. (Healthy assimilation.)

We can likewise, with equal facility, perceive what will constitute disease :-

1. Any man neglecting his duty. (Disordered nervous system.)

2. Any derangement in any one of the machines. (Disease of tissues.)

3. An insufficient supply of crude material. (Defective food.)

4. Imperfect preparation of crude material. (Mal-assimilation.)

I need hardly remind you that this simile must not be pushed too far, since it is in many respects very imperfect, more especially as regards the inter-dependence of the various parts: for example, the nervous system performs its work by means of the force set free during the degeneration of its ganglionic cells; and hence is as much a machine as any other part of the organism, and, consequently, equally dependent with the rest on a proper supply of assimilated pabulum. Moreover, the source of motion in our manufactory is totally different from that in the living body; and could only be analogously represented by supposing each machine to be moved by the force extricated during the chemical decomposition of certain parts of the machinery; added to which the living body has two peculiarities which are inconceivable by any mechanical arrangement, viz., 1st, That it cannot cease from work without tumbling to pieces, and, 2ndly, That it never makes its products directly from the material received, but forms them from its own substance, and repairs the damage thus induced with the materials supplied to it.

Notwithstanding these imperfections, however, it will serve our purpose in rendering intelligible many important points. Let us follow some of the crude material, say iron, from its reception into our establishment to its exit as formed material. The iron is received as a mass of cast-iron direct from the furnace where it was smelted; and in this state is only fitted for the casting. If needed to make any piece of machinery where

toughness is required, it must be forged and rendered malleable ; if wanted for other purposes it must be converted into steel ; or again it must be hardened, in other words, according to the purpose for which it is ultimately required, it has to undergo various processes by which its molecular structure is modified ; and unless these modifications are properly effected, the resulting manufacture will be imperfect. If, for instance, a piece of brittle cast-iron is put where tough wrought-iron should have been used, the article will break when exposed to a strain which, if properly made, it would have been fitted to endure ; or if tough, soft iron is used where an elastic, springy steel should have been placed, the article will be found wanting in one of the most essential characteristics. Precisely analogous changes go on in the living body ; the crude pabulum received from the *primæ viæ* must undergo many changes and modifications of molecular structure ere it is fitted to supply the wants of the higher tissues ; and if any mass of germinal matter is obliged to assimilate pabulum lower in the metabolic scale than is best for it, the result will be a change in its own molecular constitution ; and, as a consequence, an alteration in its functions, in other words, disease. Whether or not such a disease will be evident to others will depend upon the extent and gravity of the change. A slight deviation will give rise to no detectable symptom ; and in such a case will exist as a pre-disposing cause. Such a state is called dormant disease, which represents an amount of change in the molecular condition of a part that is not incompatible with the continued performance of the concrete function of the organ, but which will, nevertheless, endow the part with a property not possessed by the healthy germinal matter, viz., inability to resist some stimulus which, if applied to the healthy part, would have had no injurious effect. Like one piece of machinery with the cast-iron where wrought-iron should have been, it will do its work as if all were right, until a strain comes in a certain direction, when the cast-iron will snap, and the integrity of the machine be destroyed. In this case the improper molecular construction of the iron is the pre-disposing cause, and remains dormant in the absence of the strain. The strain itself is the stimulus (exciting cause) of the disaster which results from its application. Whether such a deterioration will be transient or permanent must depend upon two causes. 1st. And chiefly, according to the continuance or otherwise of the mal-assimilation, because so long as such a part is supplied with ill-formed pabulum it cannot regain its health. 2nd. According to the strength of the tendency in the part to re-produce its like, or to revert to its former condition ; when the latter is strong, if really good pabulum is supplied, the new and diseased property will soon be lost, if the former, a result, most probably, of the duration of the deterioration, then, even with the most healthy food, a considerable time may elapse ere the part reverts to its norm.

These general principles may be applied to the explanation of every form of motion in the germinal matter in response to some unusual stimulus.

Diseases thus considered are just as natural results of the altered circumstances, as health is the natural result of the original circumstances in which the system was placed ; or, in other words, pathology is the physiology of parts in unusual circumstances.

The same considerations prove that there cannot exist any true resistance to disease, or any real *vis medicatrix naturæ* ; all the changes which follow the application of stimuli being the direct and necessary results of the pre-existing molecular constitution of the part. Germinal matter must be said to act blindly ; and to be just as ready to perfect a self-destructive act as to bring about a change which may tend to throw off the disease. In fact it cannot be imagined as exercising any choice in the matter. It is as much a machine as any dead piece of mechanism.

The well-known tendency of a large number of diseases towards recovery is traceable to the *inherited properties of the germinal matter*; and just as in certain families we meet with inherited tendencies to certain diseases, and at once trace them to peculiarities of molecular constitution of the parts concerned, so in the majority of cases the tendency of germinal matter to resort to its original mode of motion, after it has been turned out of its normal course, is sufficiently strong that most acute disturbances speedily and spontaneously come to an end.

Diseases are grouped together according to resemblances in their origin, their locality or their course; but for the purpose of determining what kind of treatment will be best adapted for their cure, we must ascertain what the stimulus is which has roused into activity the abnormal properties of the germinal matter implicated in the morbid process.

I think we are now prepared to answer the question as to how diseases ought to be treated, and also to test the propriety of many of the means of cure most frequently resorted to.

As during all the manifestations of life the three essential constituents are germinal matter, pabulum and stimulus, we must attend to all these in our endeavours to remove disease. The study of the changes of germinal matter constitutes pathology; the study of pabulum, dietetics; and the study of the action of stimuli includes the whole field of drug-treatment. We will, however, begin with the last point, as most germane to our subject.

Every true drug acts as *stimulus*, and the symptoms it produces are the evidence of this action. Now according to our explanation of the action of stimuli, it must follow that drugs will act very differently, according to the pre-existing condition of the matter to which they are applied. For example:—

1. Before a drug can act chemically, it must have reduced the substance upon which it acts to the chemical degree of molecular constitution, or, in other words, drugs cannot act chemically on living germinal matter; they must kill it first, and having thus split it up into chemical compounds, they will combine with these according to their wont. This is a very important fact, as showing that unless we desire to destroy a part by chemical agents, as with caustics, we must not attempt to prescribe them as acids or alkalies or indeed in virtue of any of their chemical properties, unless we can limit their sphere of action to dead matter. We may justifiably employ chemicals to modify the condition of unabsorbed food, or to secretions after their formation; but to expect a chemical action within the metabolic sphere, is to look for an impossibility and to reap a failure. The sphere, therefore, of chemical treatment is outside the living matter. 'Tis no doubt true that many invaluable drugs are also powerful chemical agents; nevertheless it is capable of demonstration that they influence germinal matter, not in virtue of their chemical affinity, but in virtue of their power to stimulate into activity some pre-existing property of the germinal matter itself. It is on this account that chemical substitutes can never be used in true scientific drug-treatment. If for example, an antacid were required the practitioner might use any of the alkalies or alkaline earths and if to neutralise the acids of dyspeptic fermentation were the only purpose for which it was required, the substitution of one base for another would be unimportant; but since every alkali and alkaline earth has its own peculiar power to stimulate germinal matter, the use of each one is apt to be followed by its own specific effects, over and above the chemical action upon the acids of the decomposing food. In the stomach they all act as alkalies, and neutralise the acid with which they come into contact; but beyond the stomach in *addition* of the body, potash acts as potash, soda as soda; and nothing short of an accurate foreknowledge of these specific effects, and a judicious avoidance of over doses or protracted usage, can prevent a

physician from doing infinite damage by an attempt to rectify a chemical fault by a chemical corrective.

2. A drug cannot act as a specific stimulus unless the germinal matter possesses the property of responding to its peculiar mode of impression; and as the germinal matter of different organs differs essentially in its properties, it follows that every different substance will modify the changes of germinal matter in different parts or in different ways. We may expect, therefore, to find that every substance capable of modifying metabolic changes will have what looks like an elective affinity for certain organs; or in other words, a drug, though brought into contact with germinal matter in all parts of the body, will initiate new modes of motion in certain parts only.

3. A drug which is capable of acting on a given part of the body in a certain way, as long as the molecular movements of that part are normal, may act in a totally different way upon the same part, if a new set of movements are going on. In other words, the action of a drug upon a healthy and a diseased organ may differ to any extent.

4. In like manner, a drug may be perfectly incapable of acting on a certain organ while it remains healthy, and yet be capable of modifying to a great extent any morbid changes which it may be undergoing.

All these variations are the natural conclusions deducible from the principles we have laid down, and experience has abundantly proved every one of them.

Such being a general outline of drug-action, it follows as a necessary consequence that no drug can be used judiciously as a means of cure, until we have become acquainted with its powers of influencing the healthy functions. Unless we know accurately what parts of the living germinal matter it will influence, and also what changes it will inaugurate, we cannot prescribe it with precision. A proving of a drug on the healthy body, however, will be insufficient, since we have seen that it may and probably will act very differently on the same part when diseased; and hence we must ascertain this point also. It is at this point that Hahnemann meets us with his invaluable discovery, viz., that a drug invariably produces in the diseased organism a series of changes precisely opposite to those which it produces in health, and that consequently it removes from a diseased part the entire series of symptoms which it would excite in the same part when healthy; and hence his law for the selection of a drug is "*Similia similibus curantur*." We shall return to this, but in the meanwhile must proceed with our enquiry as to how the treatment of disease should be regulated by the light of the most advanced physiology.

Bearing in mind that germinal matter alone is truly living, and that every substance found in the body is produced by this same protoplasm, we must not expect to supply defects in formed material by supplying it directly—everything that enters the stomach is changed into the metabolic state before it can become part of any formed material, whether structural or not. Every oil-globe found in the cells of fat or elsewhere has been produced by germinal matter, and in no instance consists of oil which has been simply absorbed and re-deposited. So also with albumen, fibrin, gelatin, *et hoc genus omne*; not one of these can be made to enter directly into any of the structures of similar composition; each must first lose its identity, and, emancipated from all its dead chemical property, must enter the metabolic state, and thence be reproduced by deposition as formed material. The practical lesson to be learned from this is, that chemical analysis of food, as far as proximate principles are concerned, will be of no assistance whatever in regulating the diet. The relative amount of albumen, fibrin, gelatin, oil, &c., tells us nothing, as all these cease to exist before true nutrition becomes possible. Ultimate analysis is useful, as we

know that the body must receive from without all the carbon, oxygen, hydrogen, nitrogen, calcium, ferrum, phosphorus, &c., which are found in its formed materials ; but, beyond the important fact that the compounds of these must be in the colloid condition, the superiority of one form over another as food is regulated by other proportions than those deducible from chemical analysis. Their physical forms, as influencing the facility of their disintegration ; the effect they produce on the gastro-intestinal mucous membrane ; the more or less readiness with which they are absorbed, &c., are all of vastly greater importance than anything we can discover by chemical re-agents. Hence a chemical diet-table, treating of proximate principles, is among the most misleading of all the so-called helps to the treatment of disease or the maintenance of health.

If all diseases consist in changes in modes of motion of germinal matter, the converse must likewise hold true, and all changes in the modes of motion of germinal matter must be looked upon as disease. *Hence true cure must in every case consist wholly and solely in a restoration of the original mode of motion to those portions of germinal matter which are diseased ;* and any benefit which may be derived in a cure of disease by producing changes in any other part of the body, must be considered as *indirect*, and the process regarded as *spoliative*.\* One would imagine that such a statement as this would be hardly necessary, as it must be self-evident to all who think calmly over the subject ; and yet it is all but ignored in practice, and the only system which holds it up as a standard of comparison and adheres to it by the sick-bed is denounced as unscientific and absurd. To restore changed action, by directly influencing the diseased part, is the very essence of specific treatment, and Dr. Drysdale has admirably defined a true specific to be “a remedy which cures by the absorption of its whole physiological into its therapeutic action ;” or, paraphrasing this to suit the point from which we are at present viewing the question, a specific is a remedy whose therapeutic effect is to restore the normal mode of motion to the disordered germinal matter, and whose physiological effect would have been to have produced precisely the same disordered action, had it not already existed. The one effect exactly balances the other, and the practical result is that there will be no evidence of medicinal action at all ; the cessation of disease and the restoration of health are the only consequences of the administration of the drug. This is the *beau idéal* of treatment. There is no spoliation—no waste of force ; the existing error is corrected, and all goes on as if disease had never been.

Let us now enquire how far the dominant school of medicine follows this course. At the very foundation of almost all their treatment lies the error, that they give remedies *to do something* in place of to *undo*—they use medicines to produce their direct action, or in other words, to *produce a morbid change*. Now this must be wasteful and spoliative, and can only be defended on the ground of expediency ; it is literally at best doing evil that good may come, and unless it can be distinctly proved that there is no other known way, it cannot be recommended. No wonder that many thoughtful practitioners have come to the conclusion that it is better to leave diseases alone and to trust to the well-ascertained “tendency to revert to the original type” to correct the errant action of the disordered part ; and so it would be, if spoliative treatment were the only possible alternative. We however

\* I do not by any means wish it to be understood that the spoliative treatment should never be adopted. I know well that in many chronic diseases the system is loaded with material of a low degree of vitality, of which it should be relieved as an important step towards cure. But even here a diet so arranged as to compel the system to work off its bad material is infinitely to be preferred to any attempt to effect the same result by disturbing doses of drugs.

deny the necessity for this. We know that drugs properly chosen will correct existing derangements and without producing new ones ; and this, we reiterate, is their proper function.

Take an example. *Colocynth* has been proved to act on the bowels, and to produce colic and diarrhœa. The dominant school use it, accordingly, where they wish to empty the bowels, and give it in a dose capable of producing its physiological or pathogenetic effect ; but not wishing to induce colic as well as purgation, they add *hyoscyamus*, which experience has taught them counteracts that part of its effects ; and having got rid of the colic, they are well satisfied with the result.

We, on the contrary, give *colocynth* where colic and diarrhœa already exist, and, without the aid of *henbane* or any other adjuvant, the colic and diarrhœa both cease, and the patient is restored to health. The allopath, however has given the remedy because he wanted to produce an over-action of the bowels, and accordingly *colocynth* used in our way would not suit his purpose ; unless, indeed, it was a case of constipation associated with colic, in which instance *colocynth* will frequently cure the one, and in so doing overcome the other, which is often a mere consequence, and does not own a separate origin. If, however, no colic exists, he must ascertain the exact condition of the intestines upon which the constipation depends, and acting upon this knowledge, select the proper specific to correct the error. To give an aperient under any circumstances, is contrary to the principles we are now defending, because it is producing a diseased condition. To restore the natural action of the bowels is quite legitimate, but to produce an over-action must be spoliative, and hence to be avoided whenever it is possible. To revert to our mechanical illustration, what workman in his senses would try to correct the wrong action of one machine by making another machine act wrongly, even though the second disturbance should in some measure counterbalance the first ? Unless it were the only means of preventing the destruction of more or less of the machinery, such a step would be unwarrantable, and certainly could not be defended so long as a direct correction of the original disturbance were possible. What has been said against aperients may with equal justice be said against all other developments of the physiological action of drugs ; and thus we arrive at an important point regarding the dose of a drug, which, according to these views, should always be too small to produce its physiological effect. I shall not, however, enter into this subject, as it will form a special question for discussion in Dr. Black's paper, to which we are all looking forward with interest.

A careful survey of the therapeutics of the most advanced practitioners will demonstrate the fact that drug administration has become more and more limited chiefly to three classes, viz., sedatives, tonics, and specifics. Of specifics such as Iodide of Potassium, Quinine, &c., I shall say nothing, since in most of these the relationship between drug and disease is of the kind we are advocating ; and any question we may still be disposed to raise has reference rather to the mode of administration than to the art of selection.

Of the three classes, however, that of sedatives is the one most frequently abused. Nothing seems to me more astonishing than the manner in which the most advanced physiologists recommend the use of sedatives ; and the insane rush after every new pain-killer by practitioners of all classes shows clearly how little a correct physiology has hitherto regulated the practice of the profession. Upon what principle this unscientific use of narcotics is defended I am at a loss to conceive, unless it be that, recognizing their inability to exert any direct effect on the progress of the disease, they think they will, at any rate, render that progress as comfortable as possible to the patient. Just as if the well-wishers of France should have cut the



telegraph-wires to prevent the Assembly at Versailles knowing anything of the doings of the Communists in Paris, and have defended the act as a wise precaution lest the deliberations of that august body should be disturbed by the exciting nature of the news brought to them. I am well aware that much has been said of the advantages of physiological rest, and of the exhausting effects of pain ; but let it be remembered that I am not arguing against the removal of pain, but against the prevalent method of achieving the result ; neither does it appear to me possible to conceive anything less *physiological* than the rest obtained by inducing a morbid state of the morbid centres. Who, in his senses, believes in a really innocent narcotic ? What were we so confidently told about Bromide of Potassium and Chloral Hydrate ? Were they not both lauded as “ blessings to humanity,” and perfectly harmless removers of pain and sleeplessness ? and are not the medical Journals already teeming with warnings of their dangers, or at least their many “inconveniences” ? I was much pleased, and not in the least surprised, to read the following report of Dr. Maudsley’s opinions in the *Lancet* of August 12th, 1871. It is as follows :—

“Dr. Maudsley began by seriously doubting if it were always a wise thing to stifle excitement ; and whether a chemical restraint put upon the brain-cells was not often as injurious to the patient as a mechanical restraint imposed upon his limbs. He thought that sedatives were given far too recklessly ; that, although they might relieve symptoms, they often only served to push the patient further down the hill, and, as often as not, retarded recovery. He thought that the whole range of sedatives, including Bromide of Potassium and Hydrate of Chloral, were equally capable of being abused ; that by giving them we often seriously damaged the patient’s general health ; and, instead of curing, we often merely ‘made a solitude and called it peace.’”

These are words of sound wisdom which I trust will bear practical fruit. Dr. Maudsley is too sound a physiologist and too clear a thinker to be long misled by so deceptive and unscientific a procedure as that he comments on. Surely the time must soon arrive when physicians will learn that they have a higher mission than that of putting disease out of sight ; that it is a wiser and better plan to look to the future ; to let the patient suffer pain on the way towards health rather than enjoy present relief at the cost of drifting into hopeless disease.

It is very lamentable to find an accomplished physician like Dr. Anstie claiming, as among the glories of our recent advances in Therapeutics, the subcutaneous injection of Morphia, and the employment of Bromide of Potassium and Hydrate of Chloral.

So long as the fundamental error of producing a new disease for the purpose of curing one already existing—no matter whether the new morbid action is set up in the part already diseased, or in some more distant organ—so long as practitioners will give drugs in disturbing doses, so long no real progress in drug-treatment is possible. Either the entire facts of our advanced physiology must be interpreted differently, or the very foundations of old-school drug-treatment must be re-laid.

Physiological experiments with drugs will continue absolutely barren of therapeutic advantages while their results are utilized in so erroneous a manner. If a remedy is found experimentally to paralyse the motor ganglia of the spinal cord, of what possible use can this knowledge be if the remedy is to be given in paralyzing doses ? What true physiologist would recommend the production of such a serious morbid condition as a method of cure ? When, however, drugs are employed rationally, that is, specifically such a knowledge becomes invaluable, since upon the ascertained principle that drugs produce the exactly opposite effect in disease to what they do

alth, know that such a drug, in a proper dose, will remove any-  
 sis of the cord, provided the restoration of its normal mode of motion  
 not been rendered impossible by an entire change in its constitution, or, in  
 other words, provided disorganisation of the cord has not already taken  
 place.

If time permitted I might show that the fashionable methods of treating  
 diseases by stimulants and high-feeding have both been carried to an extreme  
 which opposed the teachings of physiology; but here, the error  
 being simply one of degree, it will probably right itself; and I have there-  
 fore preferred confining my attention to drug-treatment where the errors  
 are fundamental, and where the change must be thorough to be of any  
 real value.

Let physicians once realize to themselves the true nature of life, of  
 health, and of disease, and they will never commit the grave error of  
 producing one disease for the cure of another, except, indeed, under protest,  
 and as a matter of expediency.

Let them once recognize the true nature of drug action, and its specific  
 relation to diseased action; and they will receive a light wherewith to  
 guide them through the difficulties and intricacies of a consistent ther-  
 apy.

Let them be content to follow and help the natural course of diseases  
 rather than force a method of their own imaginings upon a blindly-acting  
 machine which can offer no resistance, and may therefore be led to destroy  
 itself; and they will cease to prescribe drugs to produce disturbances, un-  
 der the idea that they can in this way drive the pre-existing disease to a  
 happy termination.

And, finally, let us rejoice that every real step in the progress of modern  
 physiology has strengthened the scientific foundation of specific drug treat-  
 ment; and that we are able to stand abreast with all the workers in this  
 vast field of research, and, accepting with deep thankfulness each new dis-  
 covery, are in a position to render it useful at the bed-side of our patients.

Gentlemen, I will now conclude with hearty congratulations as to the  
 position of homœopathic treatment as established by the most recent ad-  
 vances in physiological research.

## THE FUTURE SCIENCE OF HOMŒOPATHY.

By WM. H. BIGLER, M. D., of Philadelphia.

From the earliest times we find an apparently well-founded distinction made  
 between the theoretical and the practical. In the Natural Sciences, in  
 Medicine, in Philosophy, even in Theology, in short, in every department  
 of human knowledge, we are able to trace an *empirical* and a *speculative*  
 school. The former prides itself on a collection of bare facts, whilst the  
 latter, framing, entirely a priori, a system of ideal views, endeavours under  
 this to arrange all facts, and to fit, to explain all phenomena. Both are  
 extremes, and neither can justly lay claim to the name of *Science*. *Science*  
 is a *System of Knowledge*, i. e., it consists of substance and form; the former  
 can be given only by *experience*, the latter only by our *reason*.

Again, a glance at the mental development of the individual will show  
 the relation in which these two factors stand to each other. The infant is  
 an empiricist in the full sense of the term; the child begins already to  
 reason and to arrange his experience, but it is not until the full ripeness of  
 adult age that he can hope to have collected enough experience to give  
 comparative certainty to his system of knowledge.

The sharp line of separation, therefore, so often drawn in the present age between the Theoretical and the Practical, and the undue importance attached to the latter is unnatural, and calculated to hinder the advancement of science. There should be nothing purely theoretical nor anything purely practical. They should go hand in hand; observation suggesting a theory, the theory guiding the practice, and the practice serving to correct and develop the theory. Thus it has been in all the greatest achievements of the human mind, as well as in the earliest and rudest efforts in the Arts; the only exceptions to this being those purely accidental discoveries which have at times shortened the laborious plodding of man by whole decades.

We may, therefore, conclude that Theory, as well as Practice is necessary to the building up of a Science.

#### *Is Medicine a Science?*

Of the merits of Allopathy, and its claims to being the Science of Medicine, it is not our province here to speak in detail; suffice it to say, that, in our judgment, a system—if such it can be called—whose representatives are obliged to say “For this disease there are many remedies, and we must *try* one after the other until we *hit* upon that one which will benefit this particular case,”—such a system, we say, has much to learn before it will have earned the right to be called scientific.

But, is Homœopathy a Science? We think not. It is scientific, but not yet a Science. Any careful student, however, will readily find in it all the elements of a true Science, awaiting the ordering hand of industrious disciples to be reared into an edifice which shall command the admiration of the world.

We find it based upon *Observation*, the indispensable prerequisite of a science.

If there was any one particular faculty in which Hahnemann can be said to have excelled, it was in the faculty of observation;—observation close, laborious, conscientious, and—what is seldom found in a revolutionist—*impartial*.—Having collected his observations, he took the next step towards the formation of science; he drew his inference from the mass of experience at his command, and set up his theory—*Similia Similibus Curantur*—which he then applied practically and sought to confirm before the world.

Had his theory proved even absolutely false, or should future investigation show that it needs modification, yet would Hahnemann deserve the gratitude of the scientific world for the blow he struck the blundering empiricism of his day, for the decided reformation he thereby inaugurated and, above all, for showing the possibility of a Science of Medicine by setting up a *principle*, well defined and comprehensible, according to which the cure of disease should be attempted.

More than this could not be expected from one man; what he did was the work of a giant. If we picture to ourselves the state of Medicine at the time in which he lifted up his voice against its abuses, we must be struck with admiration at the moral courage he displayed, and be willing to give all honor to the founder of our school. And yet it could not be expected that his system should be perfect. It is the work of a God to give birth to a fully armed Minerva, and Hahnemann was but a man, himself laying no claims to infallibility. In science the individual should be naught, the *Truth* everything. We therefore, as seekers after the Truth, should not worship the man but seek to develop and perfect his system. A human system that has not in it the elements of development, beyond its original form, must on that very account prove suspicious to the scientific world. Experience has shown that many long years of patient study and research, on the part of numerous followers of any other system, have been necessary to bring it near that state of perfection which we can expect to reach during

the present stage of our existence ; and why should an exception be made in the case of Homœopathy ?

In the history of all sciences we can trace three stages, and not until these have each been at least entered upon, can a science claim even comparative perfection.

These stages are : 1. A *synthetical* stage, in which the fundamental principle is *unhesitatingly* applied to all phenomena, for the purpose of confirmation. This stage is a *practical* one, and the necessity for a theoretical explanation of known facts is not felt to be *imperative*. Here, in Homœopathy, we place Hahnemann and his immediate successors.

2. An *analytical* stage, where the various *phenomena* are analyzed and new ones sought, but again from a *practical* stand-point. The thousands of symptoms in our *Materia Medica* prove how industriously the Homœopaths of the present day are laboring to complete this stage.

3. A *perfecting synthetical* stage, where all acquired data, are, on the basis of previous analysis, reduced from multiplicity to unity, and are brought into a fuller harmony with the original principle. This latter itself thereby acquires a new depth and significance, in the light of which further progress becomes comparatively easy. This stage of Homœopathy lies before us, and not until the representatives of our school have knowingly and avowedly entered upon it, can we claim to possess a *Science of Medicine*.

If these views be correct, it becomes every follower of Homœopathy to set clearly before him the goal towards which he must aim, and the direction in which his efforts must be put forth, that they may not be in vain.

We will endeavour then to find out 1. *In what particular departments of the field of general medical knowledge Homœopathy is called upon, by its principle, especially to labor ?* and 2. *How these departments are to be cultivated ?*

1. The events of the past years have conclusively shown that the world demands a thorough medical education on the part of homœopathic physicians, and that this demand has been recognized as just and every effort made to accede to it. Our investigation, therefore, has reference only to the question, "What branches ought *particularly* to engage the attention and invite the research of the homœopathic *practitioner*." Taking the fundamental principle of our system as our guide, the answer becomes easy ; indeed, in "*Similia similibus curantur*," it is already given, viz : *Similia*, i. e., morbid phenomena as indications of a *pathological state*, PATHOLOGY ; *Similibus*, i. e., morbid phenomena as the result of *drug action*, MATERIA MEDICA ; and *curantur*, the crowing point and aim of the whole science of medicine, THERAPEUTICS.

We do not deny that the reaction against the dogmatism of the dominant school in the branch of Pathology caused even Hahnemann to lay but little stress upon it, and has led many of his followers to deny *in toto* its utility. But is not the latter extreme equally as wrong and disastrous as the fault against which it is the reaction ? Amidst the host of symptoms which a careful examination of almost any patient can elicit, what shall be our guide in determining their relative value in selecting a remedy ? What shall guard us against seizing some particular one as characteristic, giving it undue prominence, and combating it energetically and—in vain ? Upon a knowledge of Pathology depend Diagnosis and Prognosis, and upon these, our ability to form such a picture of the "totality of symptoms" as will enable us to apply a remedy understandingly, and with the assurance of success.

It is to *Materia Medica* that Homœopathy has hitherto paid most attention and in which it has made most progress. Symptoms of drugs have been multiplied almost indefinitely, and they are being collected and brought

into a shape that will materially lighten the labors of future workers, when Homœopathy shall have entered upon the third stage of its existence. And in view of the paramount importance which, in our school, a knowledge of the *specific* action drugs have, we cannot be sufficiently grateful to those who have devoted their lives to the cultivation of this branch of medicine. If the same single minded industry be shown hereafter in the efforts to give this a scientific basis, and to harmonize thoroughly its phenomena with those to be obtained by a homœopathic cultivation of Pathology, what may we not hope for in the future, in the branch of Therapeutics?

II. But to proceed to the second and more practical part of our examination, viz: *How* are these branches to be cultivated?

We answer in general—by unfolding and applying in them the fundamental principle of Homœopathy.

In order, however, to do this, we must examine again the “*similia*” and the “*similibus*” to find in what their “similarity” is to be sought. Here we lay down the proposition, as a key to the whole position, *that no single symptom can be regarded as a symptom of the so-called disease or morbid influence ALONE*. The importance of this proposition will be seen as we proceed to examine the various factors which *unitedly* produce symptoms.

In the first place the human organism presents to us the view of a complicated laboratory, in which the most complex chemical processes are continually going on. These would lead, as they inevitably do in the end, to decomposition and dissolution, if they were not held in check and regulated by some force, which although itself uninfluenced by them, yet has normally (i. e. in health) the power of preserving the harmony of their action. In this harmony alone do we find a just equilibrium between destructive decomposition and reparative assimilation. This regulative force, we will call, for want of a better term, the *vis vitæ*. As this vital force is in health ceaselessly active in preserving harmony, so in disease we must suppose it equally active in seeking to restore it when disturbed.

This *vis vitæ*, although the same in all—for it is but a part of the original “breath of life,” whereby “man became a living soul”—is modified in its activity, and in the manifestations of this activity by the *second* factor of which we have to speak—the *individual constitution*. The universal spirit of life individualizes itself in each human being, and in connection with hereditary or acquired peculiarities of physical structure and function, produces what we call *constitution* (including Temperament), unique in each individual, and furnishing in each an object of separate study for the pathologist.

But in the production of abnormal phenomena we must recognize as active also a *third* factor—*morbific influence*: be it mechanical or tangible, or dynamic. The results of the most recent investigations go to show that in nearly all diseases the *ultimate* cause is of the former kind; whilst we must hold fast to the fact that the *proximate* cause is of the latter class. The morbid influence by originating new abnormal processes, or by retarding or accelerating the normal ones, disturbs the equilibrium and produces what is called a pathological condition.

These three then, the *vis vitæ*, the individual constitution, and the morbid influence, we call the *constant factors* or agents in the production of disease or morbid phenomena.

There are, however, also others which we can call *variable factors*, since they may in certain cases not be of sufficient power to influence the character of symptoms in any very marked manner. That they *do* exert some influence cannot, we think, be doubted. There is no absolutely inert object in nature; everything has its own peculiar power or force, which it is constantly putting forth. Whether the manifestation of this force is to become *apparent* to us will depend upon the relative susceptibility of the

object upon which it is exerted, and upon the acuteness of our senses.

Of the *variable* factors we will mention as the principal ones: the *quality of the atmosphere* (moist or dry; heavy or light, hot or cold, pure or impure, positively or negatively, electric, &c.), *the amount of sunlight* (i. e. clear or cloudy), *the time of the day*, *the season of the year*, *the locality* in which the patient resides, the position of his dwelling or apartment, and other circumstances which will readily suggest themselves to every one.

Again, if the spots on the sun's disk stand in some connection which the phenomenon of the Aurora Borealis, and the variations of the compass, and if, according to the assertion of careful observers, the changes of the moon affect the amount of water which collects over sauer kraut, and the position of fence posts, we must reasonably conclude that man too is subject to *sidereal influences*.

These, then, are the various agencies, constant and variable, which by their action upon the tissues, and through these upon the functions of the human body, produce the symptoms of disease, and to these the homœopathic pathologist must direct his attention, if he would work in the spirit of the founder of his school, and assist in building up a science of medicine. Here he will find enough *invariable* elements to enable him to classify symptoms—classification being *indispensably necessary* to science—at the same time that a recognition of the *variable* elements will guard him against too hasty generalization, as well as against superficial dogmatism.

He will find and name certain pathological states and processes manifesting themselves by necessary and invariable symptoms, which will claim his first attention, and in the light of which the relative importance of other symptoms is to be determined. He will trace the influence of *constitution* in certain modifications of general symptoms, and in new *sympathetic* phenomena, whilst by careful study and continued rational comparison he will be able to *foretell* the varying character that a disease will assume at certain seasons, and in certain localities, under the influence of the *variable* agencies above pointed out.

But to pass on to our examination of the "*similibus*," or symptoms of drug-disease. Here, too, the same *constant* and *variable* factors have been at work to produce the phenomena recorded in our *Materia Medica*; the only difference being that *here* the known drug takes the place of the sometimes unknown "*morbific influence*." We see, therefore, that in any given family or group of drugs, the characteristic *differences* in their action are not to be ascribed exclusively to the drugs, but in a great measure to the peculiar *constitution of the prover*, and to what we have called the "*variable agencies*" at work *during the time of the proving*.

This leads us to say a few words on what we consider requisite to make a "*proving*," really valuable as a contribution to our *Materia Medica*. The prover should be an *unbiased, conscientious* person, and a *close observer*. He should be as nearly as possible in a state of health, but should note carefully his *hereditary or acquired constitution*. We should be informed of his peculiarities of temperament, his occupation and the circumstances which could in any way affect the results of the drug's action, e. g., the hygienic condition under which he is placed, the external influences to which he is exposed and the effect they ordinarily produce.

Besides this should be recorded the telluric and sidereal changes that occur during the time of proving, and this not in general terms, but with precision, and as the result of careful observation. The prover should make *no change* in his manner of living, since such change would in many cases of itself be sufficient to produce symptoms.

Provings conducted in the manner thus briefly hinted at, although they would prove very laborious and would require much

eventually furnish us with a *Materia Medica pura*, and we would not run the risk of having every accidental itch and ache ascribed to the action of a drug, when much more powerful influences may have been at work.

From provings of this kind, in which, furthermore, there has been a *uniformity* in the *amount* of drug taken, but a *variety* in the *circumstances* under which it was taken, the Homœopathist must, by comparison, endeavour to build up a *science* of *Materia Medica*. He must now classify and arrange his remedial agents into groups according to their *primary invariable* action. Here he will be very materially assisted by classifications already furnished him by the natural sciences.

Within these larger groups, he will then endeavor to form smaller ones, on the bases of *sympathetic* symptoms, tracing, however, the characteristic *differences* between the drugs, dependent upon the action of the *variable* agencies.

But in order to be able to do this, and to take the next and final step towards the goal, he must seek to *explain the symptoms*. They are in themselves but signs by which suffering nature seeks to make her wants known to intelligent man, and it is his duty to *seek* to interpret them. The difficulty of the task offers no excuse for the shirking of the duty.

But our work is not yet complete. We must now compare the primary invariable action of the drugs, with the constant invariable signs of pathological states to find the *simile*; and then the *variable* and *sympathetic* manifestations of drug action, with the same phenomena produced by morbid influences, to find the *similimum*, thus to construct a *Science of Therapeutics*. This branch has often falsely, we think, been based upon a doctrine of doses and potencies which will not bear the test of close investigation. We do not mean to deny the efficacy of potentized drugs, but we do maintain that the essence of homœopathy, as its name implies, lies in the "principle of similarity," and not in the dose. We have assumed this principle to be correct, and if correct how are we to explain the cures performed by the Old School with the *same* remedies as are employed in cases of the *same* disease by the New School? Either our principle is not correct, or the *quantum* of a drug has nothing to do with its immediate curative effect. This is a dilemma out of which there is no escape. For the present, therefore, the question of dose must be regarded as undecided, and only to be settled by more extended and systematic observations. There can be no doubt that up to the present time the principle of similarity has proved the most reliable guide in Therapeutics. The more closely the similarity between the two sets of agents active in producing the symptoms of natural and of drug disease, the surer and more scientific will become this branch. And it is this which is the highest and noblest part of the medical science; that in which empirical art by becoming scientific, reaches its goal. Here as we have seen, after the foregoing analysis, the highest synthesis is reached, where all phenomena are re-collected and brought into perfect unity with the governing principle.

Not the *Similia*, not the *Similibus*, but the *Curantur*, should be the boast and pride of Homœopathy.--*American Journal of Hom. Mat. Med.* New Series. Sept. 1871.

### *Our Exchanges.*

WE have to tender our best thanks to the Editors of the following Periodicals for regularly exchanging with us :—

*The Indian Medical Gazette.*

*The British Journal of Homœopathy* (H. Turner & Co., London).

*The Monthly Homœopathic Review* (H. Turner & Co., London).

*The United States Medical and Surgical Journal.*

*The American Homœopathic Observer.*

*The Western Homœopathic Observer.*

"*The Homœopathic San.*" (We have not received this Journal for a long time past.)

*The American Homœopathist.*

*The American Journal of Homœopathic Materia Medica.*

*The New England Medical Gazette.*

*El Criterio Medico* (Madrid).

*La Reforma Medica* (Madrid).

*La Homœopatía* (Bogota).

*The Indo-European Correspondence.*

*The Hindoo Patriot.*

*The Bengalee.*

*The Indian Mirror.*

*The National Paper.*

*The Bengal Times* (formerly *The Dacca News*).

*The Daily Examiner.*

*Native Opinion* (Bombay).

*The Englishman: Saturday Evening Journal.*

*The Indian Daily News.*

*The Soma Prakasha* (Bengali).

*The Education Gazette* (Bengali).

*The Abala Bandhara* (Bengali).

*The Bamabodhini Patrika* (Bengali).

*Ramayana* : Devanagar Text with Bengali Translation (publishing in series).

We shall be glad to exchange with any Medical Periodical in the world.

Books, &c., for review, to be sent, carriage paid, to the Editor direct.









